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по
СОВЕТСКОМУ
УЗБЕКИСТАНУ



ИЗДАТЕЛЬСТВО
ЛИТЕРАТУРЫ НА ИНОСТРАННЫХ ЯЗЫКАХ
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A TOUR
of
SOVIET
UZBEKISTAN



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AUTHOR'S PREFACE

This book is a summary of many tours by many travellers. Now, reader, it becomes *your* tour.

A great number of people come to Uzbekistan every year. Frequent visitors to her towns and *kishlaks*, or villages, are groups of workers and collective farmers from Transcaucasia and the Far North, from the Soviet Far East and from neighbouring Tajikistan. Then, too, there are the scientific expeditions which come year after year from Moscow, Leningrad, Tbilisi, Kiev, and elsewhere to work in Uzbekistan's oases, her towns, her deserts. Besides, numerous tourists arrive in Tashkent by train or aeroplane every day.

Working people from abroad also show a deep interest in Uzbekistan, one of the free Soviet republics. In 1925, at the Fourteenth Party Congress, Joseph Stalin said "Any Chinese, any Egyptian, any Indian, who comes to our country and stays here six months, has an opportunity of convincing himself that our country is the only country that understands the spirit of the oppressed peoples and is able to arrange co-operation between the proletarians of the formerly dominant nationality and the proletarians of the formerly oppressed nationalities." These words were spoken more than a quarter of a century ago. Since then the friendship among the peoples of our country has grown stronger still, it has become part of the everyday life and of the very mentality of Soviet men. With that great friendship as a foundation, the Communists have turned Uzbekistan into a prosperous socialist land, just as they have the other Soviet republics.

Speaking of her fellow-weavers at a workers' meeting in the Tashkent Textile Mill, an Uzbek weaver said with pride that they were weaving of Uzbek cotton a banner of peace for the globe. Well spoken! Along with the other peoples of the Soviet land, the Uzbek people are

fighting for world peace and devoting all their energies to a great programme of peaceful constructive labour. The more you travel in Uzbekistan, the more strikingly and distinctly the vast panorama of that labour, which is transforming the very face of the land, comes into view.

The aim I have set myself is to give the reader a comprehensive picture of life in the Uzbek Republic, a guide that will take him, so to speak, on a tour of Uzbekistan. I want this book to make him feel like a real traveller who inspects a factory, admires the scenery, spends a day on a collective farm, breathes in the pungent scent of steppe grasses, hears stories about interesting occurrences, and lastly, acquaints himself with the way the men and women of Uzbekistan are building communism.

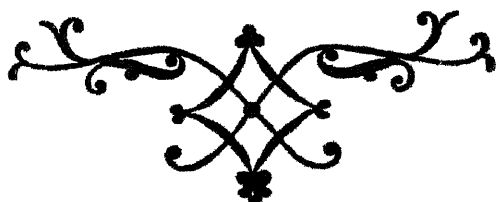
To be sure, life in the Soviet land is progressing at such a rate, with so many noteworthy events every day—new factories and electric stations go into operation, new machines and new varieties of plants are born, new tracts are won from the deserts—that one simply cannot keep abreast of it, and what one writes today becomes overnight a thing of the past. Nor can a single book cover life in all its manifold forms. I shall feel happy, therefore, if this book enables the reader to see at least the general contours, and at the same time a true reflection, of the varied, full, and creative life of Uzbekistan today, in the great Soviet era.



ENTERING



UZBEKISTAN





It takes forty-eight hours to cross the Kazakh steppes by rail from Chkalov to Tashkent. For forty-eight hours you see nothing through the window but steppeland.

Your train passes, besides hamlets, only five large oases—five new industrial towns of socialist Kazakhstan, each set in a green ring of trees—and several junctions, with their water-towers and maze of rails, with the bustle of shunting engines and the smell of hot grease lying in splotches between sleepers. The towns and junctions quickly recede, and you feel more sharply than ever the immensity and primordial nature of the steppeland.

Towards the end of the forty-eight hours the train enters the outlying spurs of the Tien Shan Mountains and races on amidst sand-hills. It is then that passengers returning home to Uzbekistan start shaving, dressing, and packing.

There is no city in sight ahead, but its presence is felt in the carriage and everybody is thinking of it. And as usual, you grow a little sad because a barely perceptible estrangement breaks into the intimacy born among the passengers during the journey. They cast casual glances through the windows.

At last a post marking the boundary between the Kazakh and Uzbek Republics flashes past. The train rolls into the Tashkent Oasis, an immense garden displaying all the colours of the South.

You cannot have your fill of admiring the sunbeams playing in the cool shade of trees, or the vineyards hiding bunches of purple grapes.

among their leaves. The smoke of hearths curls up under trees, where children frolic or the families of Uzbek collective farmers relax over a meal on outspread rugs or *palases* (napless woollen rugs). The branches of trees are propped up with poles, for otherwise they could not bear the weight of the ruddy apples, the downy peaches, the shiny pears, or the satiny plums mellowing in the sun.

The smoke from the engine catches on boughs and settles in transparent wreaths now on the drooping heads of sunflowers, now on the embroidered *tubeteika*, or skull-cap, of a little girl waving to the train from a crossing, now on the sprawling green of melon-patches with glimpses of ripening golden melons. But more often than not the smoke disperses to reveal a cotton-field, and then it seems that the plants are covered, not with bolls, but with snow-white fluff of smoke from the engine.

The dust of the country-roads running away from the crossings shows tracks left by crawler-tractors, and in the fields you see farm machines of all kinds. Donkeys carrying saddle-bags trot along beside clay walls, shying at the lorries that come speeding down the roads. Turtle-doves coo on house cornices. And above this wealth of colour and motion—above the butterflies fluttering helplessly in the whirlwind raised by the train, above the bright costumes of the collective farmers working in the fields, above the countless rows of Lombardy poplars—factory chimneys tower in a majestic semi-circle.

There is water everywhere. It shimmers, through the leaves of trees, in ponds. It rushes in brown streams down innumerable *ariks*, or irrigation ditches. It reflects the blue sky in the squares of rice-fields where collective farmers work knee-deep, their trousers rolled up. It flows along the ditches criss-crossing cotton-fields, making of every field a carpet with a silvery ornament. It races in a foaming mass far below a railway bridge, between the steep banks of the Bozsu, one of the ancient canals irrigating the Uzbek capital. And high above the Bozsu it moves in runlets along narrow troughs spanning the canal.

"A drop of water given to a thirsty man in the desert washes away the sins of a hundred years," says an Uzbek proverb. You tour Uzbekistan by rail, water, or air, yet your guiding points are always the

rivers and major irrigation canals. Water is the clue to Uzbekistan's geography.

Probably no other country in the world has boundaries so irregular as Uzbekistan. The Uzbeks live in ancient oases that formed around rivers coming down from various mountain ranges and flowing in different directions. Scattered over a huge area, these oases—the Tashkent, the Ferghana, the Zarafshan, the Kashka-Darya, the Surkhan-Darya, and the Khorezm—are separated by arid steppes, deserts, and mountain ranges, while their only links are roads and railways, plus occasional chains of tiny oases with orchards clinging to the banks of brooks.

What are Uzbekistan's oases famed for most of all? For their "white gold," for their cotton. The Uzbek people raise in their fields nearly two-thirds of the Soviet Union's cotton. And although Uzbek agriculture is renowned for other things, too (it supplies two-thirds of the Soviet Union's karakul, its karakul being the best in the world, half of the Soviet Union's silk, more than half of the Soviet Union's rice, enormous quantities of fruit, and the bulk of the Soviet Union's "green gold"—lucerne seeds, also world-famous), its snow-white cotton eclipses everything.

Nearly two decades ago Academician Fersman, an eminent Soviet mineralogist, wrote "Whoever has made many trips to Central Asia, knows that practically the whole of its attention is focussed throughout the year on cotton, on planting, watering, or harvesting it. When cotton-picking begins in autumn, when state-farm workers and collective farmers scatter over the fields in bright, colourful groups, and when new harvesting machines glisten in the sun, you begin to realize Central Asia's tremendous importance for the light industries of our country and why everything in Central Asia must really centre around cotton.

"It is for cotton that Central Asia must be industrialized, because it takes chemical fertilizers—phosphatic, nitrogenous, and potassic—to raise bumper crops. Cotton-growing calls for the extraction of phosphates, potassium salts, and nitrogen compounds, for a chemical industry producing sulphuric and nitric acid, for subsidiary chemicals, for building, fire-proof, acid-resisting, and road-paving stone. Central Asia

needs oil to feed power plants, coal to feed transport, asphalts to pave or tar roads, sulphur to pollinate orchards, and metal to do away with the necessity of bringing every nail from Siberia or Moscow "

Today Uzbekistan has all this. During the five-year plan periods the Uzbek people, led by the Communists, made great progress:

from primitive smithies where men stood in pits and shod horses suspended by straps, to an Uzbek steel mill with open-hearth and rolling-mill shops built according to the latest engineering standards,

from the wheel on which potters shaped their ware, to large machinery works manufacturing hydraulic turbines, compressors, excavators, diesel engines, cranes, machines for cotton plantations, water-frames, speed-frames, and many other machines and machine-tools,

from primitive weaver's shops where coarse fabrics were made on ancient looms, to the largest silk and textile mills in the Soviet Union, such as the Tashkent Textile Mill which has seven times as many spindles as the entire cotton industry of Iran;

from the street dust that *dehkans*, or peasants, once used as fertilizer, to the products of the Chirchik Electrochemical Works, the largest in the Soviet Union, thanks to which every acre under cotton in Uzbekistan now receives nearly five times as much fertilizer as in the U S A ,

from the *chirak*, a flickering oil-lamp, to the Farkhad Hydro-Electric Station, the third largest in the Soviet Union, and to dozens of other large plants that now produce more power than all the stations of tsarist Russia on the eve of the Revolution,

from individual peasant farms with the *omach* (the Asiatic counterpart of the Russian wooden plough) and the *mala* (a primitive wooden harrow), to large-scale collective farms using tractors, combine harvesters, cotton-picking machines, and other equipment,

from the *maktab* (elementary school), where sons of *bais*, the native rich, learned by rote Arabic words they did not understand, to the Academy of Sciences of Uzbekistan,

from strolling singers and musicians to an opera house whose leading singers are acclaimed not only in Uzbekistan but in Moscow, Prague, Budapest.

Uzbekistan lies in the heart of Soviet Central Asia. She borders on the Turkmen, Kazakh, Kirghiz, and Tajik Soviet Socialist Republics, and on Afghanistan in the south. She has an area much larger than Italy's, and her population nearly equals Australia's. In short, Uzbekistan is a big republic.

Every major Uzbek oasis has a history of its own. Each of them was an independent state at some period or other. Each has natural and economic features and customs all its own. And when collective farmers from all over the republic get together for one of the high-speed canal-building jobs of national significance, which have made the Uzbeks famous, an experienced onlooker can at once tell, by the patterns on their robes or by their *tubeteikas*, whether they hail from sunny Khorezm, rich Ferghana, or Kashka-Darya villages where birds sing in the pomegranate groves.



THE TASHKENT

JOASIS





1. TASHKENT'S INHERITANCE

Tashkent! A great conglomeration of streets. Straight avenues where the asphalt shines through the green of leaves. Streets canopied by broad-leaved lime-trees and spreading oaks. The plateglass show-windows of sports goods shops and book shops, department stores, restaurants and cafés, shaded with awnings, are sunk in a cool half-darkness. Flowers, ice-cream, newspapers, and magazines are sold from street-stands. You drive past a street or two where trenches have been dug for water-pipes, electric cables, or drains. The other streets are clean and tidy.

Tashkent, capital of Uzbekistan! Some of the old houses bear memorial plaques of white marble, with golden letters reminding you of the time when the city was the revolutionary heart of all Central Asia. Rows of motor-cars are drawn up in front of the Ministries. At the hotel you hear conversation in many languages by people who have come from various republics. The shadow of an aeroplane flits across the street. And the resident of Tashkent can tell by its course whether it is bound for Alma-Ata, Stalinabad, or Moscow.

That is how Tashkent appears to you on the day of your arrival in summer or in autumn. But that is only a first impression. To see the Uzbek capital properly you must spend at least a few days there.

"A stranger needs a mirror to see what the local dweller can see even in a crock," says an Uzbek proverb. To see the extent and

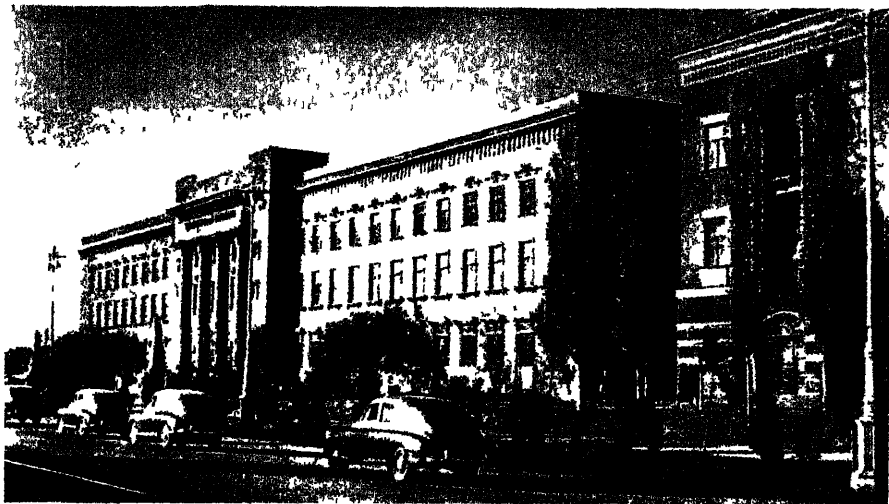
grandeur of the socialist reconstruction of Tashkent, you must have a clear idea of what came before. If you limit yourself to a stroll along the new thoroughfares and around the new workers' blocks, without acquainting yourself with the disappearing vestiges of the old times, you will miss many a feature even of the most beautiful streets of socialist Tashkent, you will pass by many a thing without appreciating it

Like some of the other cities of Uzbekistan, Tashkent inherited from the pre-revolutionary period a characteristic division into so-called Old Town and New Town, that is to say, the former Asiatic part and former Russian part. Soviet men and women have long since done away with the dividing line, and now they are working to do away completely with the difference between the two city districts. But Tashkent ranks sixth in the Soviet Union as to population and second as to its area, which nearly equals Moscow's. Such a city cannot be rebuilt overnight. That is why, in spite of the vast construction going on, Old Town and New Town are still elements of the outward appearance of Tashkent, as of some of Uzbekistan's other largest towns.

For more than half a century since the day Turkestan became Russian territory Old and New Town, two worlds separated only by the Ankhor canal, lived side by side almost without mingling.

In Old Town an Uzbek weaver would hurriedly murmur an incantation whenever a thread broke, to stave off misfortune. From the minarets muezzins called the faithful to prayer with long drawn-out cries. An Uzbek woman would glide like a shadow down crooked lanes, between clay walls, wrapped tight in her *paranja*, her face veiled with a black horsehair net. When an Uzbek went away on a distant journey and his wife was lonesome for him, she would send him—not a letter, because she could not write—a bunch of straw and a piece of charcoal, which meant, "Without you I have grown as yellow as straw and as black as coal."

And at the entrance to the Church of St. Sergius, on the other side of the Ankhor canal, beggars would line up on the patron saint's day, asking for alms of a well-dressed crowd of officials and merchants and their families. As in Tambov or any other remote Russian town, the strains of the "In the Hills of Manchuria" waltz played by a brass-



The Central Telegraph Office in Tashkent



The poet Gafur Gulam, Stalin Prize winner, addresses a group of Young Pioneers of Tashkent



The Blue Sai, a river in the Tien Shan foothills

band would come from the city park. And a court clerk, who because he did not speak Uzbek had failed to understand the complaint of an Uzbek merchant, and yet had accepted the offered bribe, hoping that everything might clear up of itself later on, would mutter with a weary sigh, overcome by the heat, "Those Asiatics!"

Besides Russian officials, however, one might have met, in pre-revolutionary Tashkent, a scholarly orientalist who had arrived from Russia (he would sit in the market-place of Old Town, eagerly leafing through old Uzbek manuscripts), as well as other solitary scientists "Political suspects," too, whom the tsarist government had exiled to that outlying territory, had made their appearance in Tashkent, as had the first Russian workers, mostly railwaymen. I shall tell further how revolutionary ideas found their way to the Uzbek masses thanks to Russian workers.

But now I start on the story of a most interesting man of the end of last century, an enlightener, a son of the Uzbek people who proved strong enough, in the dark era of tsarism, to break out of the bounds of Moslem fanaticism and seclusion and boldly crossed the Ankhor to see the new and progressive things which the Russian New Town could bring to his own Old Town.

His name was Zakirjan Khalmammedov. But the Uzbek people know him by the name of Furkat, his literary pseudonym. In 1889 he moved from Kokand to Tashkent, there he studied Russian and read the poetry of Pushkin, Lermontov, and Nekrasov, which he greatly admired. While sharply opposed to the tsarist administration, he was the first Uzbek to realize the great significance of Russian culture for the destinies of his people. He wrote with enthusiasm about the fecundity of Russian science, about Russia's stage, schools and art shows, about the first printing presses in Turkestan, and advised Uzbeks to travel in Russia and learn from the Russians. Together with the well-known Tajik enlightener Ahmad Makhdum he fought passionately against religious obscurantism, fanaticism, stagnation, and ignorance.

Furkat's ideas were taken up and continued in the writings of Avaz, Hamza, Aini, and other progressive men of letters. Early in this century Old Town saw the first ABC books for elementary schools, story-books with morals for children, and Uzbek translations of

Krilov's fables. It would be wrong to imagine, however, that the new ideas of enlightenment were wide-spread. The activities of Furkat and his followers were but a ray of light in a realm of darkness.

The Moslem clergy, against whom Furkat fought with passion, was backed by the tsarist colonialists. To hold the masses in ignorance, the tsarist regime restricted the local schools, theatres, and other institutions of enlightenment, as often as not, it simply closed them down. No wonder that under these circumstances Furkat, herald of a new culture, was compelled to leave his native land. As for Avaz, a Khivan poet, he was subjected to severe corporal punishment and declared insane in Khiva in 1912, only five years before the Great October Socialist Revolution, just because he had called upon his people to learn from the Russians. Knowing that, one is particularly moved by Furkat's writings, with their full confidence in his people's happy future.

Now that future is here. It followed the purifying storm of the socialist revolution that swept across the Russian empire. You can also read that in the streets of present-day Tashkent. But before resuming our tour I should like to describe an encounter I once had in Pushkin Street, one of the most attractive in New Town.

2 ASLANOV'S CARAVAN

This happened in the summer of 1924. Pushkin Street then was as broad as it is today, but it had no large buildings. Its roadway was not bordered with an endless ribbon of scarlet Indian cannas in bloom. Nor was it asphalted. Only that side along which a tram-line stretched was paved with cobbles. Age-old Central Asian dust lay in the middle of the roadway.

One day I saw from afar a cloud of dust float from a side-street into Pushkin Street. It rolled in, filling Pushkin Street to the tops of the poplars, then turned and came in my direction. Ahead of it rode a horseman in a Khivan red robe.

As the cloud drew near, I could hear the creak of wheels, the crack of whips, the jingle of camel-bells, lively conversation and laughter. Then I made out through the dust the shapes of the front riders, mount-

ed on horses and camels, and the outlines of *arabas*, or ox-carts, crowded with people in robes, wearing *tubeteikas* and sheepskin caps

"Boy!" the Khivan who was leading the way called to me in Uzbek

I walked up to him. The Khivan, who on close sight turned out to be hardly one year older than I, stretched out a paper to me and asked the way to the Irrigation School. The paper was an invitation to enter the school. I walked along beside the young horseman, showing him the way.

Half an hour later the dust-cloud following us rolled up to the Irrigation School, where it settled. Scores of young Uzbeks (and also, to judge by their garb, several Turkmens and Kazakhs) and their horses, camels, and *arabas* filled the little schoolyard, while the overflow formed a colourful camp beyond the gate. The head of the school, looked up by the frightened watchman, came in all haste, panting. Then the first circumstance worthy of surprise was discovered, namely, that the two hundred and twenty-six young people who had come to enter the school could produce only one invitation. It was made out in the name of Aslanov, the young Khivan who had led the way.

But the history of that caravan proved even more surprising. I learned it later, when all the arrivals had been enrolled in various Tashkent schools.

One day an invitation to enter the Irrigation School was delivered to a village in what was then the Khorezm People's Republic. The *aksakal*—the village elder—turned it over to Aslanov, a Komsomol member. At that period Khorezm was a remote, out-of-the-way district of Central Asia and not yet part of the Soviet Union. There the new ideas brought to the Uzbek people by the Communists were not felt so strongly as in the other Central Asian oases, and the prejudices of the past retained more power than anywhere else. No wonder that Aslanov, who dreamed of feats such as the epic heroes of the Uzbek people had performed, took no interest in the offer to go to school. He thought it shameful for a man "to sit up like a scraggy clerk, dipping his pen into an inkwell." But his attempt to shake off the invitation failed. Seeing that there was no escape, he saddled his horse like an epic hero, said good-bye to his parents, and set out, heaping curses upon the *aksakal*.

On arriving in the town of Khiva he stopped for the night at a caravanserai, and there got talking with the owner's son, a lad his age

Asked where he was going, Aslanov replied, as befitted the hero of an epic poem, "Where the hoofs of my horse bring me." His new acquaintance confided that he dreamed of going to school; he had already been gripped by the new ideas. Aslanov rejoiced. At once he made up his mind to present the other with his invitation, which he produced from his belt. But since the invitation was in Aslanov's name, the youths decided to go to Tashkent and change it there—and besides, it would do no harm to see Tashkent. In the morning they left Khiva.

In the next village they were joined by two more youths. As they rode on from village to village and from town to town, more and more young *dehkans*, shepherds, and handicraftsmen, all of them eager to go to school, joined the group. It was like a snowball that rolls down a mountain-side and grows into an avalanche sweeping away everything in its path. For the nearer to Tashkent—that window giving into Soviet Russia, into a world of culture and civilization, and above all a world where justice and brotherhood among the peoples had been proclaimed—the more clearly men saw the light that city spread, the more they wanted to enter that light and the new world. The truth of the communist ideas had already taken a firm root. Many needed only a slight extra stimulus to leave their homes and go off to school. Aslanov's group served as such a stimulus.

Lifted by a whim of fate and chance to the position of a leader with a following, and taking pride in this new position which he jealously upheld, Aslanov began to urge people in the villages along the way to join in with him. At first he did it timidly, then with increasing fervour. In convincing others of the great benefits of knowledge, he convinced *himself*, as is often the case.

That was how the unusual caravan came into being.

3. A BRIDGE ACROSS THE ANKHOR

How many years have passed since Aslanov's caravan arrived in Tashkent? Centuries. Go to the former boundary of Old and New Town, and step on to the bridge spanning the Ankhor. There thirty-odd years ago people easily passed (as European historians would say) from the twentieth century into the eleventh, into the heart of the Middle

Ages, and then, just as easily, they crossed back through the centuries, their heels clattering on the wooden flooring of the bridge

But look around you now. There is nothing great about the new bridge on which you are standing. It is an ordinary stone bridge, small, broad, and solid. On the Old Town side, new buildings line the embankment—ordinary four-storey houses with windows that let in plenty of light, houses in which you will hear the buzz of telephones and, in the evening, the music of pianos.

Navoi Street, beginning here and crossing Old Town, is nothing singular, either. It is a broad thoroughfare typical of the Uzbek capital, with two rows of lamps stretching into the distance, with four rows of trees that are as yet too young to shade the pavements, and two rows of buildings, some of them dwelling-houses with balconies, in the style of traditional Uzbek architecture, and beautiful structures resembling palaces, with moulded cornices, colonnades, and broad granite steps. Unfinished buildings, too, appear here and there in Navoi Street, they are scaffolded and smell of damp cement and shavings. Occasional vestiges of Old Town catch the eye: a clay wall with a carved wicket, or the awning of a *chaikhana* (tea-room) and in its shade, a carpeted dais.

As befits a thoroughfare in a capital, motor-cars race up and down it, their tires swishing over the asphalt, and bluish sparks flash above the trolleys of trams and trolley-buses. And there are throngs. Side by side with a stylish hat you may glimpse a colourfully embroidered *tubeteika* on the head of an Uzbek girl, with her black plaits arranged in a wreath over it. Office workers carry portfolios, school-boys hop along, text-books tucked under their belts, ice-cream vendors push hand-carts. A tank lorry is watering the roadway, and a momentary rainbow comes into being in the sunlight. There is as much pulsating life as in any Soviet capital.

But there is another way of looking on that street and that bridge.

Take, for one, that girl wearing a *tubeteika*. It might well have been her elder sister, and not even her mother, who one dark night made her way up that street (it was narrow, then, and was called Sheikhan-taur Street) and stepped on to the bridge, glancing around, her breath catching with fear. On the previous day, together with

some of her girl-friends, she had thrown off her *chachvan*, the black horsehair veil, and gone out with a proudly raised head. In the evening, fanatics had stabbed her best friend to death. Then, late in the night, she had fled to New Town to seek protection. How many like her ran across that bridge! That was a whole era in the history of the Uzbek people.

Or take that black-moustached Uzbek who sped by in a motor-car on his way home, to Old Town, after the day's work. It was not so long ago that his brother carried his belongings in an *araba* across the bridge as he moved into a new flat in New Town. Not so long ago he himself, having seen the furniture his brother had bought and noted its advantages, got himself a cupboard, a desk, and a book-stand, and took the whole to Old Town in an *araba*. And were not the books on those shelves instrumental in making the Uzbek apply, in the autumn of that year, for admittance to a college preparatory course? A few years later he graduated from the Textile Institute and became an engineer at a huge textile mill which was built in Tashkent while he was a student.

As I stand on the bridge I cannot but recall the stream of *arabas* carrying Uzbek families from the old world into the new one, to New Town, or the stream of *arabas* moving the other way as the new world came to Old Town—first with household articles, then with bundles of books printed in the new alphabet, with wireless-sets, drawing-boards, slide-rules. That, too, was an era in the history of the Uzbek people.

We had to do everything simultaneously: build an up-to-date factory, compose the first opera, open the first maternity hospital and persuade women to come to it without being afraid that the wicked *ajina* would cast a spell upon their babies. And we had to overlook it, at first, if a woman's relatives, following ancient custom, placed at the head of her bed a flat-cake and sometimes even brought along a *doya*, or midwife, who murmured exorcisms as she fumigated the mother and her infant in the hospital ward with the smoke of the *isrik* herb.

Now all that is remote history. Navoi Street has been turned into a modern avenue. Other broad thoroughfares cut across Old Town.

today, such as Kaganovich, Hamza, Poligraficheskaya, Pedagogicheskaya, Shota Rustaveli, and Besh Agach streets. Old Town now has water-mains and asphalt pavement, parks and stadiums, kindergartens and cinemas. Soviet architects have erected there not only fine multi-storey buildings but small modern dwellings with peculiarly Uzbek court-yards.

Cool residential court-yards of the Uzbek pattern have appeared in New Town as well, next to splendid public buildings in whose architecture and ornamentation one can easily see distinctive Uzbek features, re-fused by Soviet architects in the crucible of creative quest. That is because men like Tashpulat Aslankulov, Stalin Prize winner, one of Tashkent's best-known artists and architects of the old school, have closely collaborated with Soviet-trained engineers in erecting many new buildings.

With every passing year the distinction between Old and New Town wears away, while the outlines of a single socialist Tashkent, a city of monumental ensembles, of water, greenery, and sunshine, become clearer and clearer. Leave the bridge across the Ankhor and stroll round the city, and you will see the Tashkent of today in all its sparkle, grandeur, and fullness of life.

4 CITY OF SCIENTISTS

When you enter Revolution Garden you notice almost at once that that large public garden, nearly round in shape, is the centre of the city's lay-out. From there broad radial thoroughfares lined with trees fan out, disappearing in the hazy distance. A bronze statue of Stalin rises in the middle of the garden, on a pedestal of red polished granite. It stands at a height of nearly forty feet and can be seen from any of the streets converging there.

While relaxing on a bench in the garden, lend an ear to the city's morning music, to the sounds of the Uzbek capital. The merged shuffle of feet, the hum of voices floating over to you in waves, and the incessant chirping of birds make up a background that sets off the honk of motor-cars and trolley-buses and the whistle of far-off locomotives. The melodious ripple of an *arık* is threaded faintly into that music.

For a split-second your ear catches the flutter of a dragon-fly And dominating the whole, the distinctive strains of an Uzbek folk song, thin and raised aloft as it were, come out of a street loud-speaker

On a tower nearby a clock strikes off the hours, melodiously and measuredly A bell rings on the other side of the garden, and the grey building occupying an entire city block pours into the garden a crowd of young men and women that forms something of a seething whirlpool near the entrance That building is Central Asian State University

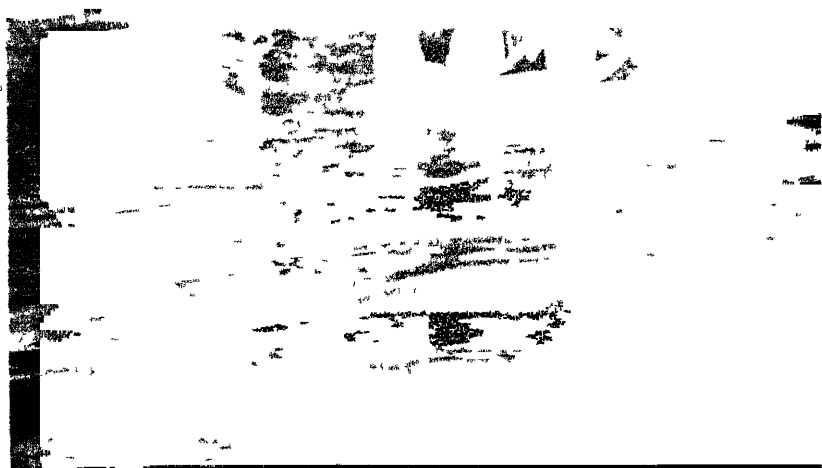
More than three and a half decades ago, just as three and a half centuries ago, the only higher educational institutions in Central Asia were the *madrasahs*, or Mohammedan colleges Their inmates lived in tiny stone cells called *hujras* and wasted their wits on studying discourses by Mohammed

Today any young Uzbek considers such schooling preposterous, antediluvian, a tale made up by historians But the fact is, people who are past forty witnessed that "tale" During the thirty years since Aslanov's caravan, a cultural revolution has been accomplished in Uzbekistan

The scope of that cultural revolution will become evident if I say that in 1914 only two per cent of the Uzbeks were literate, mostly people who read religious books Today Uzbekistan is a republic that has no illiterates As everywhere else in the Soviet Union, there is universal compulsory seven-year free education here, and now universal ten-year education is being introduced in large towns

The tremendous cultural advancement of the Uzbek people stands out even more clearly from the following comparisons Iran (whose population is more than double that of Uzbekistan) has only 5 colleges. Holland (whose population also exceeds Uzbekistan's) has 6 colleges in all As to Uzbekistan, she has now 36 colleges located in various towns of the republic For every 10,000 of her population, Iran has 3 persons attending college; India, 9, Egypt and Turkey, 12 each; Sweden, 21; Italy, 32, Denmark, 34, and France, 36. Uzbekistan has 71.

Most of the colleges are in Tashkent Every year thousands of young men and women arrive in the capital by train or motor, or



Komsomol Lake in Tashkent



Tashkent Revolution Garden, with the statue of Joseph Stalin



A view of the Ankhov Canal in Tashkent

aeroplane if they start from far-away Khorezm. When they leave several years later, they are historians, doctors, engineers, biologists, or agronomists.

Pay a visit to Central Asian University, and whether you attend a lecture by Professor T. Zahidov, outstanding Uzbek biologist, on the fauna of the Kizil Kum and the Kara Kum, or a report by A. Sadikov, D. Sc. (Chem.), on how he succeeded in obtaining from *itsigek* (a desert plant) nicotinic acid that saves tens of thousands of human lives, or a class conducted by the Uzbek mathematician T. Sarimsakov, Stalin Prize winner, you will see clearly that the Uzbek people have borne out in full Stalin's well-known words: "Liberated non-European nations, drawn into the channel of Soviet development, are not a bit less capable of promoting a *really* progressive culture and a *really* progressive civilization than are the European nations."

The pioneers of science in Central Asia were Russians: Semyonov-Tien-Shansky, Severtsov, Mushketov, Fedchenko, Vyatkin, Shreder, Navrotsky, Berg, Obruchev, Bartold, and others. They selflessly explored the region, which was little known at that time, and published numerous fundamental works describing its natural resources, economy, history, culture, and life in general, and laid the foundations of selection in cotton-growing and horticulture. In 1870 the Tashkent Public Library was opened and in 1874 the Tashkent Observatory.

After the Revolution, the first teachers of Uzbek scientists were also Russian scientists: Fersman, Borovsky, Protodiakonov, Korzhenevsky, Romanovsky, Uklonsky, Korovin, Askochensky, Poslavsky, and many others. In 1920 Vladimir Ilyich Lenin signed a decree founding Central Asian State University. Lenin urged a number of Moscow and Leningrad scientists to move to Tashkent to help the new university. They did, and during their work in Tashkent they trained thousands of local scientists, among whom—and this was especially significant—there was a large number of Uzbeks. In the course of fifteen-twenty years these young scientists made so many discoveries and raised science to such a plane that an Academy of Sciences came into being in Uzbekistan, with its own research institutes, libraries, museums, and scientific stations.

Before you cross the threshold of the Uzbek Academy of Sciences, here is an account of something that happened not so long ago

It was in Moscow in 1936, in the laboratory of Academician A Orekhov. Among those who worked there was a young Uzbek scientist named Sabir Yunusov, the son of a Tashkent mason and a graduate of the Chemistry Faculty of Central Asian State University. By then he had discovered certain new alkaloids and was about to finish determining the intimate structure of one of them.

Determining the intimate structure of an alkaloid is a very difficult task. Since alkaloid chemistry was founded a century and a half ago, world science has determined the intimate structure of about 150 alkaloids out of the 700 that are known. How important this work is can be seen from the fact that it was only owing to the knowledge of the structure of quinine that chemists succeeded in making acrichin, that knowledge of the structure of cocaine enabled them to make novocaine, and so on.

One day, while Sabir Yunusov was sitting over his work, a group of foreigners visited the laboratory. On seeing Yunusov one of them, an Englishman, asked Academician Orekhov, "Does this man come from one of your colonies?"

"We have no colonies," answered the Academician. "He is a comrade of ours from the fraternal Uzbek Republic."

"How much tuition does he pay you?"

"Nothing. The State pays *him* for his work."

The foreigners glanced at one another and shrugged. They did not believe that an Uzbek could be a chemist. Why, in their countries it is fashionable to this day to write about the "peculiarities of the soul of the Moslem peoples," about "intuitive insight and mystical contemplation, combined with ascetic self-denial, which are so typical of the Orientals," qualities which allegedly preclude the ability to use the "inductive method" of European science.

Anyone who steps into the Uzbek Academy of Sciences will realize the utter absurdity of that invention about "peculiarities of the soul."

Today you can see Sabir Yunusov in the Academy's laboratory of alkaloid chemistry. He and his assistants have already determined the alkaloidness of 3,000 plants of Uzbekistan; besides, they have discov-

ered thirty-five new alkaloids Sabir Yunusov himself is now Vice-President of the Academy

At the Academy you can also meet T Zahidov, D Sc (Biol), its President, whose life story is like Sabir Yunusov's and is typical of Uzbek scientists Born into the family of a poor peasant and brought up in a children's home, he finished secondary school, then was educated at Central Asian State University and became a most prominent expert in the desert fauna of Central Asia

You may also see at the Academy Maksuda Sultanova, a woman who has elaborated one of the most difficult departments of higher mathematics, or attend a report by H Rahmatullin, an outstanding Soviet physicist, fresh from the Soviet capital, where he is a professor at Moscow State University He has been awarded a Stalin Prize for his work in the theory of waves

Uzbekistan's scientists—Doctors and Candidates of science—may say with pride that by winning the riches of Central Asia they are paving new ways for science and technology Their work, like that of all Soviet scientists, is inseparably bound up with the building of communism.

At the Geological Institute you may come across engineers conferring with H Abdullayev, a geologist, on the construction of a mine where new deposits of scheelite have been discovered At the Industrial Institute you may hear a talk by G. Rahimov, a power specialist, on the latest experiments in high-frequency drying of cotton in factory conditions. In the assembly-hall of the Academy, a report by S. Sadi-kov, Corresponding Member of the U.S.S.R. Academy of Sciences, on a new method of extra-root feeding of the cotton-plant. At the Medical Institute, a lecture by Professor Zulfiya Umidova, Corresponding Member of the U.S.S.R. Academy of Medical Sciences, who is noted for her research on the influence of hot climate upon the functioning of the heart.

"Peculiarities of the soul" of the Moslem peoples, indeed! Who thought that up? The same men who to this day are measuring skulls in an effort to prove that there are peoples incapable of civilization and designated by Nature herself to be slaves. It was thought up by American and European racialists In Uzbekistan it took the Leninist-

Stalinist national policy and internationalist training in a mere thirty-seven years to do away with the "peculiarities of the soul"

Tashkent has become a veritable university of the Uzbek people. In every part of the Uzbek capital lively scientific discussions take place. At the Tuberculosis Institute, on measures for the complete elimination of tuberculosis in Uzbekistan, at a conference devoted to reclamation of the Hungry Steppe, on the salt- and frost-resisting varieties of fruit-trees raised by Michurinists, at the Observatory, on a new comet discovered by Kozik, a Tashkent astronomer, and named after him, at the Institute of Language and Literature, on the compilation of a dictionary that will supply the Uzbeks for the first time with technical terminology of their own. All who work here are bending their energies to the happiness not only of the present generation but the generations to come. In every laboratory you can make out the contours of a factory of tomorrow.

Addressing a solemn plenary session of the Soviets of Old Town and New Town of Tashkent more than a quarter of a century ago, at the dawn of the cultural revolution in the republics of Central Asia, Mikhail Ivanovich Kalinin, Chairman of the Central Executive Committee of the U.S.S.R., said "I think that if the application of science and engineering, the scientific approach, keen thinking, and inventive effort are needed anywhere, it is here. Here there are literally boundless potentialities which mankind may use in the future. But these potentialities cannot be grasped with bare hands. Here you will not get far if you use your bare hands only or the *ketmen*, which has probably existed since the days of Adam. Here, in particular, the very latest word in science has to be applied. Tashkent ought to remain, I think, the educational centre of the peoples of all Central Asia. I think it ought to lead the way in conquering the vast natural forces with which Central Asia is endowed."

A natural force of especial importance in Central Asia is water.

The science of utilizing water is probably the most ancient in Central Asia. But in spite of the colossal historical experience of Central Asian irrigators and the experience of the scientists of other countries, the irrigators and power engineers of Soviet Uzbekistan have made a tremendous contribution to science of recent years. Uzbek scientists

do the technical designing not only of all irrigation and power projects in Uzbekistan (some of those projects being, as the whole world admits, miracles of engineering) but of many irrigation projects in other republics as well. For example, they have designed irrigation of collective-farm land in Voronezh Region that is expected to ensure sufficient crop yields even in the driest years.

5 FLOWERS AND TREES

The broad asphalted avenues fanning out from the green-clad square and the transversal streets from which smaller streets branch off make up a large central section of the city. Situated in various parts of it, among stone mansions and new multi-storey buildings, besides colleges and research institutes, are cultural, public, and other institutions: the Navoi State Library, famed for its collection of oriental manuscripts, the richest in the world, an observatory, one of the three in the U.S.S.R. in whose cellars "the exact time is kept," a seismological station, three museums, a conservatoire, a zoo, hotels, hospital blocks, polyclinics, schools, parks, and several markets with colourful mounds of fruit and fresh greens.

The only thing that usually fails to draw attention and seems ordinary to the people of Tashkent, although in reality it has deep significance, is the abundance of flowers in the public gardens and streets.

Flowers are old favourites of the Uzbek people. In any Uzbek courtyard you are sure to see, growing beside a clay wall, daisies, roses, autumn asters, hollyhocks, marigolds, and cockscombs. There have always been flowers in the court-yards. But the streets of Central Asian towns were flowerless. For hundreds of years they belonged to the men, while the court-yards and flowers were in the women's sphere. When the women went out with open faces into the streets of Tashkent, the flowers went out with them.

At first there was only a small variety. Then the Tashkent Botanical Gardens helped the women and children who were busy planting flowers in the streets. Peonies and dahlias arrived from the Ukraine, carnations and various asters from Armenia, gladioli, hyacinths, and

climbing roses from the Caucasian coast of the Black Sea. Ordered from abroad were the pink cypress-vine, the moon-flower and the Californian poppy, the fragrant yucca of Mexico, the scarlet canna of India, the Japanese honeysuckle, the blue camomile of Africa, the Cairo morning glory, the blue daisy. The people of Tashkent graced their city with flowers from all over the globe.

There are many strangers also among the decorative trees of Tashkent. The trees, however, deserve special mention.

In 1922 I chanced to witness an incident that I shall never forget. One day a venerable Uzbek who lived in our street cut down a poplar that grew in front of his house, for timber to build a barn. Well, what of it? There was nothing unusual about the fact, was there? Yet the whole street was incensed. After that day the man was always referred to with contempt, as "the one who cut down the poplar."

This seemed strange to me, because I knew that from time to time others felled poplars that grew near their homes, and used them for household purposes, for there was no other way of getting timber in Central Asia. But no one ever reproached those people. Finally I asked Muhiddinov, the most respected man in our district, to tell me what crime the man who had cut down the poplar had committed. He explained that, according to ancient Uzbek custom, nobody may cut down a tree before he has planted five new ones and satisfied himself that they have taken root. That man had violated the custom.

In Uzbekistan, trees have an importance that defies comparison. For more than eight months of the year they shelter man from the burning sun. Shade there is as indispensable as water or air, and trees are as much a part of the dwellings as any room; in their shade people rest, spend their leisure, sleep.

Not only the pavements but many roadways in Tashkent are canopied by foliage. Lanes of plane-trees, acacias, Lombardy and broad-crowned poplars, chestnut-trees, elms, oaks, ailanthus-trees, willows, walnut-trees, honey locusts, mulberry-trees, and others give the city the appearance of a huge park. They are interspersed with apricot, almond, plum and apple-trees and clumps of white, yellow or violet lilac, jasmine, tamarisk, barberry, privet, golden-bell, and buddleia that seem to have run out of the house gardens. Chinese decorative

grape-vines creep up the fences and porches of some of the houses. The first magnolia-trees and eucalyptuses have appeared in Tashkent.

Even the street names reflect the love of the people of Tashkent for trees. The city has a Twelve Poplars Street, Kok Terak ("Green Poplar") and Kator Tol ("Willow Row") streets. There is a district named Besh Agach, which means Five Trees. In Besh Agach, Old and New Town met, just as they had on the bridge at Urda. But that meeting was an uncommon one and showed under a quite different aspect how much trees mean for Central Asia.

In New Town, just opposite Old Town, near Besh Agach, the youth of Tashkent dug a lake. They named it Komsomol Lake, and on its shores arose bathing and boating pavilions, beaches, sports grounds, amusement pavilions and devices, an open-air stage, restaurants, and cafés. A diminutive railway for children was laid through the park surrounding the lake. And young people flocked from the crooked lanes of Old Town into that new world with all its space, its cool shade, its brightness.

But Old Town, too, did a bit of construction of its own. During the Patriotic War it built a theatre in Besh Agach, one that has walls and vaults of brick, without a single timber.

The fact is, Central Asia has no timber of its own, timber has to be brought from afar. When the war broke out and the railway switched completely to serving the front, people in Tashkent recalled the ancient art of Uzbek builders who erected huge palace and mosque vaults without using timber. In Samarkand those vaults have stood for hundreds of years. After a study of the ancient vault, Soviet architects improved upon and modernized its principles, creating a thin-walled double-curved vault that has been adopted in civil engineering and is known as the "Uzbekistan Vault." It is now used in Central Asia in enormous factory shops and in the cottages of workers' housing estates.

Yusuf Ali Musayev, an old vault-builder who has erected many a mosque, took part in building the new theatre in Besh Agach. Usto Shirin Muradov, one of the best specialists in old-style plaster-work, did the interior decoration. The Uzbek Academy of Sciences conferred on both of the old specialists the title of Honorary Academician.

6 THE COTTON CAPITAL

The fact that Tashkent is the capital of a cotton country does not strike the casual traveller who has come for a few days. But when you have lived there a year you will notice it at every turn.

The time is a winter morning in Tashkent. It snowed during the night, and now the roofs and the branches of the trees are covered with a rich, fluffy blanket. The snow that fell the previous night was turned into icicles by yesterday's generous sun. They hang down in garlands from roofs, window-ledges, and boughs. And now the sun rises again. Moist flakes of snow tumble from the boughs. The icicles grow before your very eyes and then, unable to bear their own weight, break off one after another with a tinkle, smashing into sparkling fragments.

One winter day like that Tashkent is invaded by the bright summer colours of Uzbekistan as groups of men and women wearing national costumes appear in its streets. The sun brings out the green, yellow, and lilac stripes on the robes of Ferghana, the dull red on the robes of Khorezm, and the kaleidoscopic variety of patterns and colours on the robes of Bukhara, Samarkand, Shirabad, and Shahrissabz. On almost all the robes and suits (there are also many in city dress) you will see gleaming decorations. Who are these people? They are the best cotton-growers of the republic who have arrived for their *kurultai* (congress).

The *kurultai* sits in the Navoi Opera House, the largest and probably the finest building in Central Asia, designed by Academician Shchusev. Its builders—architects, artists, and craftsmen—were awarded Stalin Prizes.

The delegates walk past a fountain, one of the largest in the country, one hundred and twenty-six jets shoot up above a huge stone cotton-boll placed in the middle of the fountain. Then the delegates ascend the granite stairs leading to the entrance-hall, which is finished in fine alabaster fretwork, cross the foyer, whose walls bear picturesque panels painted by Chingiz Ahmarov, and enter the auditorium. In this hall, as bright and snow-white as the fold of a pearl-shell, cotton-growers share their experience, tell of their new methods, discuss

the features of farm machines, seek advice from specialists in cotton-growing, sum up their work in the past year, and lay plans for the next year.

When the *kurultai* is over, the cotton-growers go home. That is late in February. Spring comes into the streets of Tashkent. The *ariks*, only yesterday empty and silent, begin to murmur beneath the windows. Street-vendors display tulips, which means that the whole steppe beyond the Tashkent Oasis is red with these flowers. The city gardens and the vast orchards beyond its limits take on a cover of whitish-pink foam that changes later into a mass of blossom. The first timid leaves appear on the trees. Then your head swims with the strong fragrance of acacias in bloom. And so the days roll by, until one morning in May an inhabitant of Tashkent, having bought at a street turning a bag of strawberries, says to himself that spring is over and summer is here.

Nothing seems to hint at cotton in this change of townscape. But look more closely, and you will notice how many people are absent from Tashkent in spring-time. First, there are the Party and public functionaries, journalists, newsreel cameramen, writers. Actors and artists, too, have left the city—to entertain cotton-growers and paint workaday scenes. Half the population of Tashkent participates in one way or another in the making of the future cotton harvest.

How could it be otherwise? Uzbekistan accounts for two-thirds of the cotton produced in the Soviet Union. In 1953 Uzbekistan grew 2,400,000 metric tons of raw cotton, twice as much as Egypt, 55 per cent more than Brazil, and only a little less than India and Pakistan combined, with their total population of 450 million. In 1954, Uzbekistan is planned to produce 3,000,000 metric tons of cotton, and by 1958 her cotton harvest will run up to 4,200,000 tons.

No wonder that cotton plays such an important role in the lives of thousands of men and women of Tashkent, shaping their thoughts and steering their energies.

A white building which houses the scientific centre of Soviet cotton-growing stands in tree-lined Pushkin Street in Tashkent. This is the U.S.S.R. Research Institute of Cotton-Growing, a universally recognized world centre of the science of cotton.

Experimental fields and laboratories of the Institute's selection station are located amid orchards in the vicinity of Tashkent. Here, using Michurin methods, plant-breeders have evolved varieties yielding more and longer fibre than anywhere else in the world, the most cold-resisting varieties and super-early ripeners that do not fear wilt or gummosis, cotton diseases. Here, too, coloured varieties of cotton, the first in the world, have been evolved, they yield pink, green or brown fibre of various hues. Work is going on to develop varieties that will yield blue and light-blue fibre. Besides, varieties yielding a woolly fibre have been evolved; they can replace natural wool.

The depth and scope of the work accomplished by scientists at this station of the Institute, as well as at its other stations—the agrotechnical, the plant-protection, and the zonal stations—and the tremendous scale on which collective farmers at once extend each of the researchers' discoveries to tens of thousands of collective-farm fields, can be seen from the fact that before the Revolution the cotton yields in Turkestan, which lies in the northernmost zone of the world's cotton-growing belt, were the smallest in the world. Today cotton yields in India are 60 per cent lower than in the United States, and in the United States they are 60 per cent lower than in Uzbekistan.

Uzbekistan holds first place in the world also in mechanization on cotton plantations. The story of this can be read not only in the republic's fields but in the streets of Tashkent as well.

It is early September. The sun is not so hot as it was a month ago. The dusty leaves on the trees seem to be made of metal. Boys on their way to school knock down walnuts from trees in the streets. Collective-farm stalls sell aromatic melons and baskets of grapes, peaches, and pears. You see more and more people with knapsacks these autumn days. There, singing a song, goes a whole group of them in a lorry. Who are they? Mountain-climbers? Tourists? No, they are college students and office workers setting out to help pick cotton.

Several years ago Tashkent folk did not have to pick cotton. But then cultivating machines made it possible to double the acreage under cotton. Engineers did not succeed at the same time, however, in designing a satisfactory cotton-picker. So a choice had to be made between waiting till they solved that problem too, or doubling the acreage

without delay and enlisting the help of the population at large in picking cotton. The inhabitants of Tashkent, Samarkand, Andizhan—in fact, of the whole republic—chose the second way.

In response to an appeal by the Communist Party, the working people of the towns began to help the collective farms in picking cotton. This patriotic movement at once assumed a mass scale.

Meanwhile the Central Committee of the Communist Party made mechanization of cotton-picking one of the prime tasks of Uzbekistan's Communists. With the constant support and encouragement of the Party's Central Committee, a large group of Soviet engineers worked persistently to create a cotton-picker. They were assisted by plant-breeders, who evolved a new, compact variety of cotton-plant, by agrotechnicians, who introduced new cultivation methods, and by chemists, who devised a fluid which strips the leaves of the cotton-plant before harvesting and thus simplifies the work of a picking machine.

Soviet engineers designed a machine that does the work of forty hand-pickers. Serial production was begun, and in 1949 the machine started to work in the fields. Today cotton-pickers are widely used in the collective-farm fields of the republic. In a year or two from now, the sight of an inhabitant of Tashkent carrying a knapsack will become a thing of yesteryear, a part of those often rather difficult yet so full times which—like the memories of one's youth, of that period of growth and of overcoming obstacles—always have an especial attraction and charm for us.

7. IN FRONT OF GOVERNMENT HOUSE

It is morning. In the main square of the Uzbek capital, named Red Square, as in Moscow, motor-cars are drawn up in front of Government House. Against the background of this huge building a bronze statue of Lenin rises above the square, on a pedestal of reddish granite and black labradorite. Lenin's arm is extended towards the men and women of Soviet Tashkent.

Pomegranate-trees grow in the square, under the windows of Government House. On the other side of the square, grape-vines fringe

the asphalted roadway Two tulip-trees, which are covered with yellowish-green flowers in May, join their tops now, in autumn, with those of poplars and acacias

This is an appropriate place for the story of how the Uzbek people acquired statehood.

Before the Revolution the "White House," residence of the Governor-General, stood in this square Tsarist officials governed the entire Turkestan Territory, as Central Asia was called at the time The Governor-General was a kind of deputy of the tsar, and the Uzbeks called him *yarim podshoh*, that is, "half-tsar"

Besides the "Russian possessions," there existed in Turkestan two minor feudal states, Bukhara and Khiva By way of a great favour, the Russian tsar had granted the title of "His Highness" to the Emir of Bukhara, and that of "His Serene Highness" to the Khan of Khiva, as if to emphasize thereby the fact that both were servants of "His Majesty" the tsar Indeed, they were faithful servants and obedient vassals of the Russian emperor

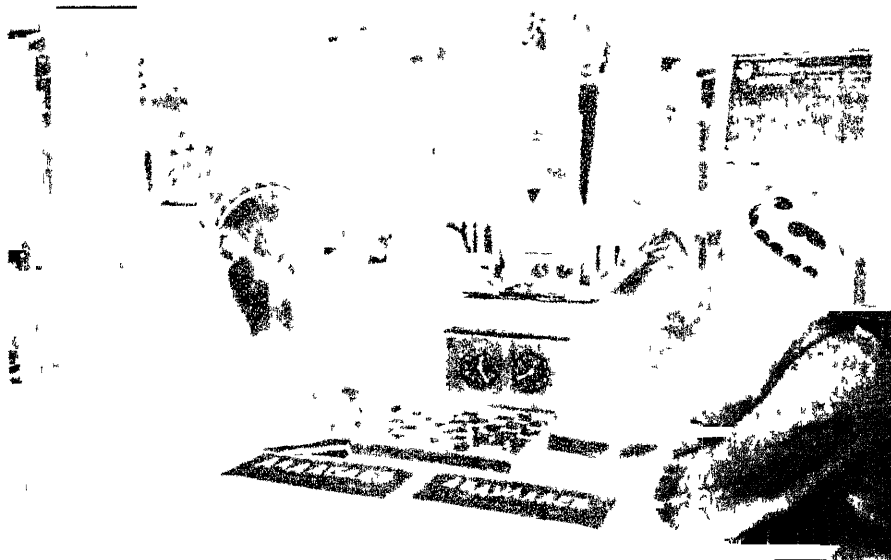
The economic disconnection and feudal disunity of the peoples of Turkestan were advantageous both to tsarism and the khans A pre-revolutionary song attributed to Ergash Juman Bulbul Ogli, the "Uzbek Nightingale," a famous folk singer, has a pun on the word *Uzbek*, saying that the Uzbek will not be *uz bek* ("his own lord") as long as he is robbed by three *beks* (i.e., lords) the Russian, the Bukharan, and the Khivan Thus the people expressed in their own way the idea contained in Stalin's well-known words that Uzbekistan and Turkmenistan "were torn to pieces and distributed among various khanates and states, thus providing a convenient field for the exploiting machinations of the 'powers that be'"

All attempts of the working people of Turkestan to shake off the double yoke imposed by the Russian landlords and capitalists and by their own feudal lords and *bais*, were abortive till Russia's workers and peasants, led by the Communists, overthrew tsarism

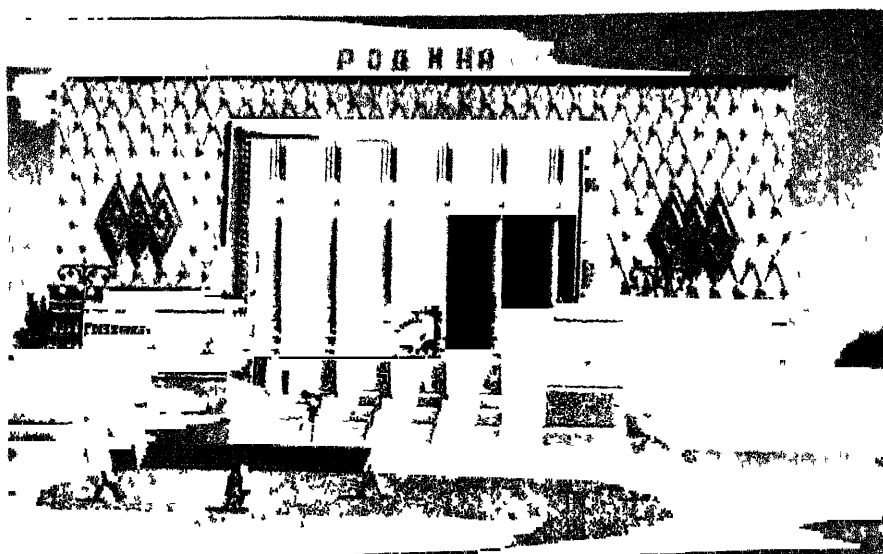
In every big town of the Soviet Union you will find a works or a factory which is spoken of with particular tenderness and reverence. These are places of revolutionary glory. In the tsarist colony of Turkestan there were no large industrial enterprises. Railwaymen made



A delegation of Azerbaijan cotton-growers inspect new varieties evolved at the U.S.S.R. Research Institute of Cotton-Growing, in Uzbekistan



Competitors in the Uzbek Chess and Draughts Championships, held in Tashkent



The Rodina Cinema in Tashkent



The State Conservatoire, Tashkent

up the most numerous group of workers, and the largest railway establishment was the Central Workshop in Tashkent.

It was the workers employed there who headed the revolutionary movement in Turkestan. From 1905 on, the railwaymen of Central Asia responded to every major political event in Russia. The Russian railwaymen's strikes and manifestations deeply influenced the working people of Turkestan, rousing them to political struggle. Uzbek handicraftsmen from Old Town began taking part in the secret May Day meetings held by the railwaymen of Tashkent. At first only few of them came, but the future belonged to them, the working men of Uzbekistan, for, frail though it was at the beginning, that was the first bridge linking New and Old Town, spanning not the Ankhor but the chasm dividing two cultures, two worlds; those were the first sprouts of the great friendship which was destined to shake and then transform the whole region.

Friendship between the Uzbek poor and the Russian workers grew stronger day by day. A great contribution was made to it by the Uzbeks mobilized for work in the rear during the First World War. In Russia, where they were used in logging and built fortresses and railways, and where they found themselves among advanced workers, those Uzbeks were steeled politically. When they returned home after the February Revolution of 1917, they organized the poor by setting up, in the largest towns, "Soviets of Moslem Workers' Deputies" or "Soviets of Working Moslems." In every way they promoted alliance between the Uzbek working people and the Russian workers.

The Tashkent events of September 1917 showed how deep and solid that alliance had become. On September 12, a great rally was called in New Town. The speakers' platform was surrounded by a seething mass of railwaymen in black working-clothes and soldiers in khaki tunics, among whom the hundreds of Uzbeks from Old Town, wearing bright-coloured robes and *tubeteikas*, seemed to make up giant flowerbeds of changing shape and pattern. The rally unanimously adopted a resolution moved by the Bolsheviks and calling for immediate nationalization of the banks, confiscation of the landlords' land and, most important of all, transfer of all power to the Soviets. A Revolutionary Committee was elected at the rally to carry this programme into effect.

From that day on, Nikolai Shumilov, Alexander Pershin, Pavel Poltoratsky, and other Communists of Turkestan began preparing an armed uprising of the masses to bring about the triumph of the Soviets in Uzbekistan. The uprising started in Tashkent on October 28, at 6 a. m., on a signal given by the whistle of the Central Railway Workshop.

The "White House" and the city fortress were the headquarters of the counter-revolution. The headquarters of the revolutionary forces was the Railway Workshop or the "Workers' Fortress," as it was called then. On October 29, when street fighting was at its height, word arrived in Tashkent of the victory of the Soviets in Petiognad. The news spurred the fighting spirit of Tashkent's railwaymen. Together with the revolutionary soldiers and the Uzbek handicraftsmen they launched an offensive against the fortress. On November 1 the fortress fell. Soviet power was proclaimed in Turkestan.

In a telegram addressed to the Fifth Congress of Soviets of Turkestan Territory in April 1918, Lenin and Stalin wrote: "You may rest assured, Comrades, that the Council of People's Commissars will support the establishment of autonomy in your region on a Soviet basis. We welcome your initiative and are firmly convinced that you will cover the whole region with a network of Soviets, and will work in full contact with the already existing Soviets."

At the Congress, Turkestan was proclaimed an autonomous republic.

The Civil War, a war of the workers and peasants, of the peoples of Soviet Russia, against the foreign and internal enemies of the Soviet State, began. The imperialists of the United States and Great Britain, who organized and inspired intervention against the young Soviet Republic, decided to seize Turkestan as well. Whereas the U.S. imperialists sent their own troops to invade the Soviet North, Soviet Far East and Siberia, in Central Asia they preferred to combat the Soviet State "by proxy." Treadwell, who had arrived in Tashkent as U.S. Consul, became head of all the counter-revolutionary forces in Central Asia. With his aid General Malleon, Chief of the British Military Mission in Meshed, organized a series of revolts by the White Cossack garrisons in various towns of Turkestan, and later simply moved British troops into the Transcaspian area. The British Consul

in Kashgar supplied the Basmachi in Ferghana Valley with money and arms. Bailey, a British agent, signed with an underground White-guard organization in Tashkent a secret agreement on overthrowing the Soviet power. But in continuous battles with the Basmachi, White Cossacks and British interventionists, the Turkestan detachments of the Red Guards and armed detachments of railwaymen succeeded in preserving the Soviets in Tashkent and in a considerable portion of Turkestan throughout the Civil War.

Of great importance was the aid that the young Turkestan Republic received from Soviet Russia and her Communist Party. In the course of June 1918 Joseph Stalin, who then headed the defence of Tsaritsyn, dispatched 115 railway waggons of grain to Turkestan. In a letter to Stepan Shahumyan, the celebrated Baku Commissar, early in July, Stalin asked the people of Baku "to give every assistance (in arms and men) to Turkestan, on which the British, acting via Bukhara and Afghanistan, are trying to play a dirty trick."

But just then the British cut off Turkestan from the Caspian Sea, while in the north General Dutov's bands severed her from Soviet Russia. In a telegram of July 15 addressed to V. I. Lenin, Kolesov, Chairman of the Council of People's Commissars of Turkestan, wrote "The Turkestan Republic is gripped in an enemy vice . . . Tashkent is cut off. In this hour of deadly danger we long to hear your voice. We are awaiting support in money, shells, arms and troops." After consulting Lenin, Stalin dispatched a large consignment of arms to Turkestan in answer to the telegram.

The route he chose was an unusual and daring one: starting at Tsaritsyn, it led to Astrakhan, then across the Caspian Sea to Fort Alexandrovsky, and farther, by way of the huge arid Ust Urt plateau and the Kazakh steppes, to the nearest station of the Tashkent Railway. Anyone who has ever been on the Ust Urt plateau in summer can imagine what a hard route it was. But there was no choice at the time. The consignment of arms rendered invaluable aid to the revolutionary workers of Turkestan.

Early in 1919, when the Red Army troops under the command of Mikhail Frunze began routing Dutov's bands on the Orenburg front, the Americans and British decided to do away with the Soviets in

Turkestan at a single blow. In Tashkent Treadwell and Bailey organized a revolt of "Left" Socialist-Revolutionaries and Whiteguards headed by Osipov, a Trotskyist. On the night of January 18 Osipov (then Military Commissar of the republic) summoned fourteen Turkestan commissars—leading executives of the republic—ostensibly for an urgent conference. On arriving at his headquarters they were all seized and brutally assassinated. But the agents of the Anglo-American imperialists had miscalculated. The people of Tashkent were angered beyond measure at the news of the death of their beloved commissars. The railwaymen at once took up arms and launched an attack on the "Osipovites" with such fury and vigour as to put down the revolt in three days.

That same year the Red Army troops that smashed Kolchak's Southern Army joined with the Soviet forces on the Turkestan front. On the initiative of Lenin and Stalin a Commission for the Affairs of Turkestan (known as the *Turkkomissia*) was sent to Central Asia; headed by Frunze, Kuibishev and Kaganovich, it was vested with extensive powers.

In a letter to the Communists of Turkestan on the occasion of the *Turkkomissia's* departure, Lenin called on them "to bend every effort to establish by example, by deed, comradely relations with the peoples of Turkestan, to show them by deeds the sincerity of our desire to eradicate all traces of Great Russian imperialism with a view to selflessly fighting against world imperialism and British imperialism heading it. For the Russian Soviet Federative Socialist Republic the establishment of correct relations with the peoples of Turkestan now has an importance that may, without exaggeration, be called colossal, epoch-making."

In the meantime the British were feverishly building strategic roads from their bases in Iran to the Soviet frontier. By December 1919 General Mailesen had recruited an army of mercenaries 20,000 strong, which he meant to transfer to Central Asia. He provided the Emir of Bukhara with "advisors" and with arms. But the imperialists of Britain did not get another chance to trample the soil of Soviet Turkestan. Red Army troops led by Valerian Kuibishev crossed the sands of the Kara Kum Desert in a heroic march that has gone down in history.

Uzbek units also took part in that march. A song by the poet Hamza, which was popular at the time among the Uzbek soldiers, conveys to us the spirit of the period:

*The long-awaited day has dawned at last,
The freedom we have won, we must hold fast
From British enemies our freedom we will guard,
In battle we will never yield a yard*

*In swelling ranks, you workers, take your stand,
And drive all foemen from your native land!
That our fair land for ever may be free,
Arise, and forward march to victory!*

This song was sung by the young Uzbek soldiers as, together with Russian and Turkmen Red Army men, they drove the British and Whiteguards out of the Transcaspiian area. They sang it also when, under the command of Mikhail Frunze, they wiped out the Basmachi in Fergana Valley. And they sang it as they responded to the call of the people of Bukhara and Khiva who had risen up in arms and asked for help.

After "His Majesty" the emperor, the people threw out in 1920 "His Highness" the Emir of Bukhara and "His Serene Highness" the Khan of Khiva. The peoples of Turkestan, who had been divided by the tsarist autocracy, the emirs and khans, were enabled for the first time in their history to unite into nations. A basis was provided for the delimitation of Central Asia along national lines and for the creation of independent national states of the Uzbeks, Turkmens, and others.

M. I. Kalinin went to Soviet Central Asia to direct national delimitation. Late in December 1924, the Uzbek Republic was proclaimed. Six weeks later the first All-Uzbek Congress of Soviets formed the Government of Uzbekistan. As Chairman of the Central Executive Committee of the Uzbek Soviet Socialist Republic it elected Yuldash Akhunbabayev, a former farm hand, an active fighter against the British interventionists and Basmachi bands, a fiery Communist, who held this position for eighteen years, to the end of his life.

Thus the national Uzbek state was born. The Uzbek people took definite shape as a nation and joined the great community of the Soviet peoples.

8. IN TEXTILE TOWN

There is a district in Tashkent that is unlike the former Russian or former Asiatic part. It is known as Textile Town. Here there are large blocks of new multi-storey houses, with department stores, a market, clinics, gardens, a Palace of Culture, a swimming-pool.

The Textile Mill is the giant of Tashkent's industry. Here is a comparison to help you picture its size: the cotton industry of the whole of Iran uses only thirty thousand spindles, which is one-seventh the number at the Tashkent Textile Mill. Every day the mill turns out hundreds of thousands of yards of fabrics.

As you view the mill you cannot help comparing it to a palace. In front of its main building, graced with statues, there is a high fountain, and among the trees of a park stand the white buildings of the different departments. Take a stroll through them and talk to the workers, they will tell you that the Textile Mill was really built like a palace.

Speaking at Communist University of the Peoples of the East in 1925, Stalin said that one of the prime tasks was "to create industrial centres in the Soviet Republics of the East to serve as bases for rallying the peasants around the working class."

Just before the Revolution there were 110 tiny industrial enterprises in Tashkent: railway and machine shops, ginneries, oil-mills, alcohol-distilling, and other diminutive plants. All of those 110 enterprises employed a smaller number of workers than the Tashkent Textile Mill does today.

By 1941 Uzbekistan—a tsarist colony that had come to be a free Soviet republic—had built up industries which accounted for more than half her national income. All her major cities are new industrial centres, headed by Tashkent, the capital. The biggest enterprise (among those built during the early five-year plan periods) and centre for training Uzbek workers is the Tashkent Textile Mill, which is named after Stalin.

The mill deeply impresses visitors. Here, for example, is what Martin Grunberg, head of an Austrian cultural delegation that visited Tashkent in 1951, wrote about it: "Uzbekistan happens to have a pop-

ulation equal to Austria's. But when Austria already had a highly developed industry, Uzbekistan was a backward country, and that was only a few decades ago. Now we see in Uzbekistan a mill employing more than four thousand persons. Austria can boast no enterprise employing as many. The figure far exceeds what Austria has. At the mill we saw how well people are cared for, which is shown, for instance, by the fact that the mill has a clinic and a hospital. The mill also has a splendid Palace of Culture. Austrian enterprises have nothing to equal that."

Pay a visit to any worker of the Textile Mill—say, to Nuriya Maksumova, a weaver, and meet her family. Like the other Uzbek women, her mother was illiterate in her youth; hers was a youth spent in darkness and ignorance. Perhaps she was thinking about that in 1922, when choosing a name for her daughter? For Nuriya means "Luminous."

Nuriya Maksumova was born when a bright, undying light went on in her native land. To tell you what she thinks of life, what stirs her, what she dreams about or sympathizes with, it is sufficient to say that today she operates twenty-four looms, that she has become the best weaver in Uzbekistan's textile industry and that, when the mill elected, in the autumn of 1950, a delegate to the Second U S S R Conference for Peace, all the workers—weavers, spinners, water-frame operators, and the others—unanimously entrusted her with the task of championing the cause of peace, so her labour fame is great.

"He who lights a lamp remains in the dark," Miners of Scotland or auto workers of Detroit, weavers of Madras or rubber-plantation workers of Indonesia might well repeat this old Uzbek proverb in speaking of themselves. But in Uzbekistan it has lost its meaning. He who lights a lamp here will by no means remain in the dark.

At the textile workers' Palace of Culture, one of the finest new buildings in Tashkent, you will see portraits of Nuriya Maksumova, Yevdokia Vizgalova, a weaver, Tursun Oy Yermuhammedova, a spinner, Nasiba Bahadirova, a doubler, and other front-rankers of the Textile Mill. In what capitalist or colonial country is such a thing possible? In what capitalist or colonial country do hundreds of workers follow

up at once an innovation suggested by a fellow-worker, the initiator's name becoming familiar to tens of thousands of people?

Take, for instance, Salih Adilov, a well-known forge-shop worker at the Tashkent Textile Machine Works. Where else is a story like his possible? Once a poor *dehkan* and a carter, Salih Adilov now operates a two-ton steam hammer and is a Deputy to the Tashkent City Soviet. A man of extraordinary inventiveness and initiative, he introduced into his work so many nationalizing innovations that he was able to fulfil 26-odd yearly quotas during the first post-war five-year plan period. He lighted just a small lamp, so to speak, by innovations bearing only on the steam hammer, but even that much light proved sufficient for his native city, for his native republic to get to know him.

To say nothing of Adilov's fame, the very existence of the works employing him would have been impossible in pre-revolutionary Uzbekistan. Then the Uzbek people grew cotton but had no textile industry of their own, and could never even have dreamed of having a textile machine industry. The only large textile machine works was in St. Petersburg, the heart of imperial Russia.

In a resolution on the national question adopted by the Tenth Congress of the Russian Communist Party (Bolsheviks) in 1921 we read: "Those border regions of Russia (especially Turkestan), which had the status of colonies or semi-colonial territories, were forced to play the role of suppliers of all kinds of raw materials that were processed in the central regions. That accounted for their permanent backwardness and prevented the rise, and still more the development, of an industrial proletariat among those oppressed peoples."

Before the Revolution, the textile manufacturing centres of Tver, Ivanovo, and Orekhovo-Zuyevo received their cotton from Central Asia, and textile machinery from St. Petersburg. Today Uzbekistan supplies not only cotton and fabrics but carding machines, speed-frames and water-frames. One may see first-class machinery bearing the trade mark of the Tashkent Textile Machine Works at mills in Stalinabad and Vishny Volochok, in Poltava and Lodz, in Hankow and Shanghai.

9 SOME PAGES FROM THE HISTORY OF THE "SELMASH"

At the other end of Tashkent, beyond the rapid Salar whose banks are alive with bathers, beyond the large park surrounding the white buildings of the Clinical Centre of the Tashkent Medical Institute and beyond the striped barriers of a railway crossing, stands the Voroshilov Agricultural Machinery Works (usually shortened in Russian to "Selmash"—*Tr*) The works was likewise built during the early five-year plan periods and may be called, with even better reason than the Textile Mill, a people's university. It is the first factory in the Soviet Union that puts out, besides equipment for ginneries and oil-mills, a variety of machines for the cotton plantations, most of the machines having been invented and designed in Uzbekistan.

As you go from shop to shop along asphalted pathways bordered by colourful flower-beds, you keep thinking of the brotherly assistance given to the Uzbeks by the Russian people. On the machine-tools installed in the shops you can see the trade marks of plants in the Urals, Moscow, or Leningrad. Almost any middle-aged Russian worker at the Selmash will introduce you to Uzbeks to whom he has imparted his skill. As for the workers of the foundry shop, they will tell you a very peculiar, an unforgettable page of the history of the Selmash that also relates to brotherhood among peoples. But first I ought to mention something else.

Everyone knows that the British, American, and other colonialists kindle by every means hostility among the peoples of the East, pitching them into sanguinary wars and mutual slaughter. No wonder that beyond our frontiers there are still those who find it hard to believe that the great friendship and brotherhood linking the Soviet peoples is real. For the first time in the history of mankind a strong nation numbering many millions—the Russian nation—instead of profiting by the weakness of minor peoples to rob them, has given them aid and, striving to ensure the real equality of those peoples, has helped them to set up powerful industries of their own.

The fraternal friendship of the peoples in the Soviet Union takes innumerable forms. It found vivid expression during the Patriotic War

when the Uzbek people, for example, said in a mandate to their soldiers "Remember that your street begins in Byelorussia and that the Ukrainian's home is in your *mahalla* (district) " In those stormy war days that friendship was evidenced in Uzbekistan with no less force than at the front. It was then that the Selmash (particularly its foundry shop) recorded an unforgettable page in its history.

In those days unusual factories—factories that had been built in places thousands of miles away—appeared in Tashkent. Lighted up by the glow of burning towns, shelled and machine-gunned by enemy aircraft, they had been mounted on wheels and moved east. On arriving at their destination, deep in the rear, they had to be set up, workers had to be found and trained, and powerful electric stations built to supply them with current. All this had to be done without delay. Whether the machine-tools brought to Tashkent were installed in the space between two shops at a factory or just outside, in the burning sun, they at once went into operation, becoming at first something like machines of the Selmash. During the early weeks, production was organized on the basis of wide co-operation between factories, and the biggest industrial enterprise in Tashkent, which had a foundry shop, naturally came to be the heart of their production process.

People of Tashkent saw the walls and vaulted ceilings of new shops rise in a matter of days and weeks around the machine-tools working in the open. They saw new factory chimneys go up as rapidly one after another. And everybody knew that as soon as such a chimney started belching smoke, the respective factory ceased to be one of the "Selmash shops" because its own heart had begun to beat. Posterity will recall that time with reverence. Under unprecedentedly difficult conditions, at a time when the men were fighting at the front while the women, old people, disabled men, and trade-school boys worked in the rear, in Uzbekistan alone about a hundred major plants evacuated from the country's war zone were put into operation. And no sooner had the first gun salvos been fired in Tashkent since the war had started, salvos announcing our victory, than those plants began a rapid reconversion to peace-time production.

The Selmash reconverted too. Its workers came back from the front. The Russian mothers joyfully embraced their sons as they welcomed

them home. On the same occasion the Uzbek women poured sweets and handfuls of coins on the bowed heads of their sons according to an old custom, so that their sons might be happy. For the sons—workers who had learnt how to operate complex machinery and later been tempered as soldiers in the fire of war—happiness did not consist in sweets or riches, as for the mothers, their greatest happiness lay in that their sons had come back alive. And yet they all performed that popular rite—some of them with silent gravity, others with tolerant facetiousness—thinking as they did so of true happiness they longed to get back as soon as possible to a life of peaceful work.

Now that happiness is here. Its signs are countless.

Selmash workers take new cotton-picking machines of a steel-blue colour out of the drying chamber to a sunlit lot. Blinking at the sun, Talip Sadikov, chief of the assembly shop, looks on as they are loaded on railway trucks. What is he thinking about? Perhaps about the far-away Ukrainian, Azerbaijan, or Russian collective farmers who will get those machines. For a cotton-picking machine is quite an event in the life of collective farmers. Uzbekistan's Selmash supplies machinery to the ten sunniest republics of the Union. The Uzbeks, a people of cotton-growers, help other Soviet peoples, who have begun cultivating cotton, not only with advice but by sending them the most up-to-date cotton-growing equipment, and this is what the Selmash workers of Tashkent are proud of.

When inspecting the Selmash and walking from shop to shop, you see everywhere signs of happy, peaceful labour. As you draw near Section No. 7 you can hear even from afar something rather like a peculiar symphony.

It is here that the high-speed workers' movement of Uzbekistan was originated by D. Sudakov, a Russian worker. Boris Pavlovsky, a young turner of the Lift Works, followed up Sudakov's initiative, and his fame spread throughout Central Asia. He now cuts metal at the tremendous rate of more than 800 yards per minute (the former rate was from 77 to 87 yards). But the Selmash workers retained their fame: Sudakov taught his new methods to dozens of others, quite a number of Uzbeks among them, as a result, soon the whole republic knew that Section No. 7 was one of high-speed work. Incidentally, one of the

men working in the section is Mustakim Yusupov, a celebrated foreman of the Selmash, on the Board of Honour set up in Karl Marx Street, in the heart of Tashkent, his name stands beside Pavlovsky's, in golden letters

When you get talking—in a shop, at a production conference, or at their homes—with other Uzbek workers who initiated the movement of innovators at the Selmash, such as Sadikov, a steel-founder, Ismailov, a moulder, or Shakurov, a pattern-maker, you are struck by a trait common to them all no matter what topic you bring up, very soon the conversation somehow drifts to production and technical problems. Those people are capable of heatedly discussing some technical fine point for hours on end. Their readiness to explain that point to you, in case you do not know much about machinery, is amazing. The Russian people have revealed to the Uzbek people a new, unknown world, that of modern engineering.

At the Selmash you can hardly come across a machine-tool or a work-place, a technological process or a device that has not been improved by rationalizers. And when attending a production conference at which people of the Selmash are discussing some innovation, you cannot forget for a second that you are in Uzbekistan, for although the Uzbek speakers freely use special terms, their talk bears an unmistakable local imprint.

The marks left by the broad, horny feet of a camel are a rare sight on the roads of the Tashkent Oasis today; the tracks of rubber tires and of tractor crawlers have replaced them. Nowadays camels are mostly mentioned in the proverbs and sayings which the Uzbek people are so very fond of and which they quote so aptly.

At a production conference, a lagging worker who tries to blame his lathe for his poor performance is put in his place by a piece of popular wisdom: "The clumsy can't hit even a camel." A leading worker who, having undertaken to introduce a new method, complains of some obstacle or other, is sure to get an angry retort like this one: "Once you're mounted on a camel, don't try to hide behind a goat." I once attended a conference at which an engineer who had made a serious blunder put up a wordy and unconvincing plea in his own behalf, and suddenly a repartee flung at him from the audience cleared up the mat-

ter for everybody "Why talk so much? He who lags behind the caravan gets his eyes full of dust!"

Among the innumerable facts attesting the friendship that links the Uzbek people to the Russian and the other peoples of the Soviet Union, there is a minor one that is particularly moving. Every year workers of Siberia send the children of Tashkent workers a train-load of young fir-trees as a New Year's gift. It is then that you can smell in the square adjoining the railway station and in the streets of the residential districts the pleasant scent of fir-needles, so unusual in Tashkent. And the fir-trees that children in far-away Siberia set up at their homes to celebrate New Year are hung with gifts from Uzbek workers—apples, pears, pomegranates, and quinces smelling of the South, of sunshine, of Uzbekistan.

We are used to thinking of communism in terms of the future, of tomorrow, so much so that at times we fail to notice its living and tangible features. Indeed, is not the fact that entire communities of factory workers show as much concern and attention for distant children as if they were their own, a moving manifestation of genuine friendship among nations? Is it not a feature of communism, of which Marx and Engels spoke as something of the distant future?

True, the smell of fir-needles in the streets of Tashkent is a feature that impresses you, but it is a minor feature. As for things of major importance, I believe that in no instance is the great brotherhood inter-linking the Soviet peoples more stirringly evidenced as a living feature of communism than in the universal interest, in that eagerness for personal participation, which Soviet men and women show when speaking of the Stalingrad or Kuibishev hydro-electric power projects and other construction jobs. Many Tashkent factories fill orders for the construction jobs. As you see with your own eyes how much energy, inventiveness and zeal the workers and engineers display in doing it, how proud they are of their share in it, you feel like saying, to use that happy expression of Marx's, that all the beauty of mankind looks at us from their faces.

The designers, metal workers and assemblers of the Lift Works in Tashkent finished several months ahead of time a special crane trolley of a new type for the builders of the Kuibishev Hydro-Electric Station.

They also manufactured electric winches ordered by the builders of the Stalingrad Hydro-Electric Station and travelling cranes for other construction projects. The Electric Cable Works in Tashkent dispatched to the builders of the Volga-Don Shipping Canal cables for walking excavators and suction dredges, cables to be laid in pipes, and trolley wires for permanent power installations.

For those who work at the excavator, abrasive, tool-making, and other plants of Tashkent that fill orders for the Soviet people's construction projects, it is easy to contribute to the latter. But what about the Selmash workers? The time has not come yet for their machinery to be used in the area where the new construction is under way. Yet how could they fail to contribute to the nation-wide projects and simply wait for their completion? They found a way to take a direct part like the workers of many other enterprises of the Soviet Union, they started a drive for economy, so that the funds thus saved could be spent on those jobs.

Thus every day and every hour, at every machine, all our people are busy erecting those magnificent structures of our era which will be admired by the generations to come and will tell them about our times, times of great expectations and great accomplishments.

10. AN INDUSTRIAL RING

Is there anyone in Tashkent who does not delight in the workaday morning scene presented by his city in that early hour when doors swing open, and men and women in working-clothes and overalls—the morning shift—fill the streets?

Their footsteps resound on the asphalted pavements. They ride along the thoroughfares in trams and buses. They are silent and concentrated, and you realize their strength, for theirs is the concentration of thousands of people who feel refreshed after a good rest and want to get their new-gathered energy untapped to their lathes, to their work-places.

When the morning shift has replaced the night shift, the city is deserted for a few minutes. Then the streets resound with the hurried footfalls of people returning home from work. Walking along, they hear

the cheery tinkle of pans and knives coming from court-yards and open windows as the women prepare breakfast for them

In the Soviet years Tashkent has become the greatest industrial city in the Near and Middle East. The factories and mills that have sprung up on the city's outskirts form a powerful industrial ring. A second and broader ring girds the entire republic. All the Uzbek cities have turned into industrial centres. The Uzbek Republic now has about a thousand large industrial enterprises. Yes, as many as a thousand enterprises, built with the aid of the Russian people.

What kind of enterprises? Over the gates of most Uzbek factories and mills one might well paint or carve as a symbol a plant which botanists say belongs to the Malvaceae family, but of which public men speak in far more poetic terms, calling it an expression of friendship, that great friendship the Uzbek people feel for the Russian people as well as for the other peoples of the Soviet Union. That plant is the cotton.

"All out for a steady advance in cotton-growing!" is the watchword determining the production profile of Uzbekistan's industries. Besides the Tashkent Selmash, machinery for growing and picking cotton is now produced by the Uzbekselmash and the Chirchikselmash, two new agricultural machinery works. Spare parts are manufactured at the Avtotraktorodetal Works, while repairs are done at the numerous engine and mechanical repair plants of the Ministry of Agriculture and Procurement scattered all over the republic. The cotton-boll might well be engraved on every machine-tool installed in those enterprises.

It might be engraved also on the machine-tools of such large engineering mills of Uzbekistan as the Excavator Works and others that turn out excavators, monitors, suction dredges, centrifugal pumps, diggers, and numerous other irrigation machines, for the irrigation of new lands means above all further billions of cotton-bolls.

The cotton-boll might be engraved likewise on the machines of the republic's many chemical works—the nitrogen fertilizer and superphosphate factories and the giant electrochemical plant that keep up a steady flow of mineral fertilizers to collective-farm fields, and the plant that produces chemicals for combating agricultural pests. But

the most interesting fact is that the republic has a chemical machinery works that manufactures equipment for those enterprises

In striving to guarantee genuine equality to the Uzbek people, the Communist Party has organized large-scale production of means of production right in Uzbekistan. Today the republic has an engine works (the Krasny Dvigatel), a ball bearing plant, a lift works, an abrasive works that puts out whelstones, tool-making plants, iron foundries, and its first iron and steel works, the Uzbek people's pride

The giant Electric Cable Works, the Lamp Factory, and two electrical machinery mills manufacture cables and the finest wires, electric bulbs, wireless valves, apparatus for high-frequency drying of cotton, and an infinite variety of equipment for the electric power stations now under construction in the republic, where even hydraulic turbines are made.

Besides electric power, the new enterprises need fuel—plenty of it. To dispense with bringing fuel from sources lying thousands of miles away, large coal-mines and oil-wells have been developed in Uzbekistan. And to avoid bringing mining and oil-drilling equipment from afar, plants to produce it have been built close by, as is customary under the socialist system.

These are just the enterprises whose ultimate object consists in producing further billions of cotton-bolls, hundreds of thousands of tons of cotton fibre. And the number of new enterprises whose very existence depends on the cotton-boll!

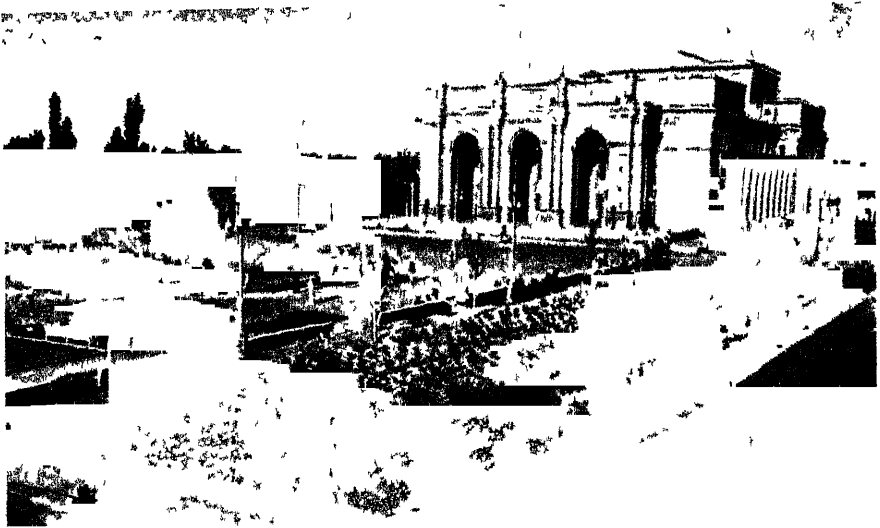
The cotton-boll raised by the Uzbeks is the raw material for dozens of ginneries and cottonseed-oil mills. Today Uzbekistan supplies fabrics to some of the other fraternal republics of the Soviet Union, thereby clothing the population there as well. Besides two colossal textile mills, Uzbekistan has several spinneries and weaving factories, a hosiery factory, and garment factories that have been built in nearly all the large cities. The cotton-boll provides raw materials also to a hydrolysis plant, a wrapping fabrics weaving-mill and, lastly, a large paper mill which makes paper for the periodicals and books printed in Uzbekistan. According to the practice of the socialist system, a textile machinery works has been built close by those enterprises, then there is a works in Tashkent which manufactures machines and



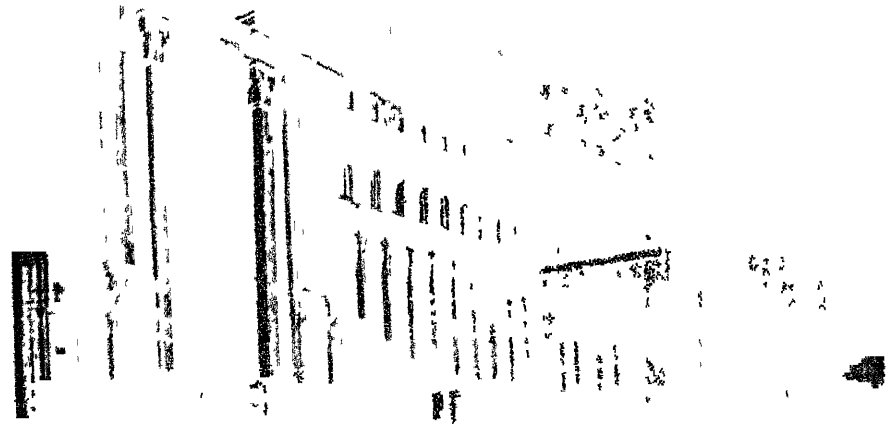
Mounds of cotton are typical features of the storing-place in Tashkent Region



These women are learning to operate cotton-picking machines at the School of Instructors in Occupational Training, Tashkent



The Alisher Navoi State Opera House, Tashkent



This building in the city of Tashkent houses the Executive Committee of the Tashkent Regional Soviet and the Muklmi Theatre

machine-tools for the new ginneries and cottonseed-oil mills under construction

Such a manifold, powerful and technically perfect industry could not have been set up without a building materials industry. High-grade cement made at the Khilkovo Cement Yards, an old enterprise that has been expanded and reconstructed, went into the foundations and buildings of Uzbekistan's factories and mills and electric power stations. By now other large cement yards have risen in the republic, and so have glass-works, brick and tile yards, bitumen, slate, asbestos piping, alabaster, and slag-block plants.

Naturally, besides the enterprises connected in some way or other, directly or indirectly, with the cotton-boll, Uzbekistan has set up other powerful industries. She has two silk and several silk-winding mills, a lucerne ginnery, a karakul-dressing factory, a viscose and a rose-mallow factory, leatherware and shoe factories, and plants manufacturing motion-picture apparatus, gramophone records, varnishes, dyes, and colours.

There are four sugar refineries, twenty canneries and fruit-processing factories, several wine-making factories, a tea-packing plant, tobacco and confectionery factories, large meat-packing plants, breweries, and other up-to-date mechanized enterprises of the food industry. Nor are they small-scale enterprises, for instance, the capacity of the Tashkent Flour Mill and elevator exceeds that of all the pre-revolutionary flour-mills of Uzbekistan. According to the practice of a socialist state, a plant has been built close by those enterprises to supply them with the necessary equipment.

Uzbekistan's railways, too, have been thoroughly reconstructed. New locomotive sheds and mechanical repair shops have sprung up in many railway hubs. The railways have been provided with automatic block signalling and other mechanized equipment of the latest types produced in Uzbekistan, at the Transport Machinery Works in Tashkent.

There is another railway enterprise in Tashkent—the famous Central Railway Workshop, which has since developed into the Kaganovich Locomotive and Truck Repair Works. Thirty-odd years ago, following the salvo of the cruiser "Aurora," its siren announced to Central Asia that the era of discord among nations was over and a new

era had begun, of which the peoples had dreamed for centuries, the one foreseen by Pushkin who wrote of the times "when, having forgotten strife, the peoples will unite in a great family"

One of the six guns that the railwaymen used in the early days of the October Revolution stands at the entrance to the little museum of the Kaganovich Works. The museum exhibits—cherished documents—tell of the underground revolutionary activities and the birth of the Communist Party in Uzbekistan, and show how that mass political party of the working class, a party which Lenin called a mirror of the intellect, honour, and conscience of our epoch, has transformed a backward colonial territory into a free, flourishing socialist republic with a highly developed industry.

11. WHEN NIGHT FALLS ON THE CITY

Step out into the streets of Tashkent at dusk, at that hour when the air is cool, when the poplars show dark, the house-windows seem blue, the first stars are twinkling above, the shadows of bats flit from cornice to cornice, and well-dressed people are beginning to throng the parks, cinemas, theatres and clubhouses of the city. Take a look at the hoardings. You will see the bills of the capital's nine theatres, ten parks where variety shows are held, and numerous cinemas. You will read announcements of concerts at the State Philharmonic Society, the Conservatoire, and the Palaces of Culture. Your eye will fall on a bill of the Circus which presents, besides the ordinary programme, Uzbek performers who have inherited the ancient art of street acrobats and tight-rope walkers.

If you happen to be fond of Uzbek folk melodies rendered in all their original beauty, go to the Mukimi Musical Theatre, a kind of folk musical comedy theatre that enjoys great popularity. If you wish to hear a modern Uzbek opera in which the elemental force of folk music, its rhythm and melody, and the timbre of folk instruments have fused with all the richness of Russian musical culture, the place to go to is the Navoi State Opera House. There you will see the best singers and dancers of Uzbekistan. But to feel all the vital force of

Uzbek art, you had better see a play at the Hamza State Theatre of Drama

Looking at the building of that theatre, at the plaster-work ornaments on its walls, its roof with the crenellated border, and the gay crowd of men and women streaming inside, you will find it hard to imagine that only two and a half decades ago the site was an Asiatic bazaar where fortune-tellers cast their beans, the form of a woman veiled from head to foot appeared occasionally, and every man wore his own shroud on his head, for the turban is the Moslem's shroud which he wears in case he should die far from home

As a boy I used to wander about that bazaar I would watch quail-fights or listen to the chanting of dervishes. One day I chanced upon a performance by a company of actors. The actors derided the merchants who were sitting in the front rows, told the tragic story of a girl sold into the harem of a rich man, and sang songs full of fire. The feminine parts were rendered by men. When the play required that actors should cry, they shed real tears, fighting on the stage, too, was done in good earnest and ended in bruised faces and bleeding noses. That company was the one which later founded the Hamza Theatre. During the Civil War it could be seen performing on the Transcaspiian front or in Ferghana Valley, where the young Uzbek actors used to go by special train.

The actors of the Hamza Theatre will never forget an evening in the spring of 1918 when they performed in the central street of the town of Namangan, in a packed open-air *chaikhana* with plum-trees growing in front. The play was one of those written by Hamza. Old shrews talking in men's voices brought hearty laughter from the spectators who were accustomed to the feminine parts being played by men. Suddenly a woman wearing Uzbek dress and speaking pure Uzbek appeared on the stage. A hush fell on the crowd. The actress performed her part; there were bursts of laughter, angry shouts, and applause. And then shrieks of "The Basmachi!" rang out. In the twinkling of an eye, the *chaikhana* was empty. A minute later the actors, still wearing their make-up, were galloping away with the young actress.

That was the debut of the first woman on the Uzbek stage. She was Maria Kuznetsova, now People's Artiste of Uzbekistan and known all

over the republic Born in Namangan into the family of a Russian mechanic, she has spoken perfect Uzbek since childhood She was followed on the Uzbek stage by other actresses whose native language was Uzbek Maksuma Kariyeva, the first of them, had to remain incognito for a long time, as soon as the performance was over, she would fly through a window, wrapped in her *paranja*

Thirty years ago, a fourteen-year-old Uzbek girl arrived at the Kazan Railway Station in Moscow On stepping out of the train, she raised her *chachvan*, the black horsehair veil that is part of the *paranja* Among those thronging the platform no one knew, with the exception of Tursun Oy, her closest friend, who was accompanying her, what a solemn moment it was in the girl's life, for she had unveiled her face never to cover it again The girl's name was Sara Ishanturayeva, now People's Artiste of the U S S R. and Uzbekistan She had come to Moscow to get a training

Sara's childhood was an unhappy one "I remember the time when I used to go out into a tiny court-yard surrounded by a crumbling clay wall," she says. "On the other side of the wall I often saw the face of a woman in a *paranja*, with her *chachvan* raised I used to wonder why she came She would stand there for a long time, gazing at me over the wall, her big black eyes swimming Then she would lower her *chachvan* and walk away. When I grew up I learnt that she was my mother." Because of her terrible poverty, Sara's mother had been compelled to distribute her children among relatives.

When Sara was nine years old her foster-father once took her to the mosque. "I had no idea why my father took me to the mosque. There we saw grey-bearded old men wearing turbans My father begged them to get Artik Bai, a buyer, to take back a certain five hundred rubles I knew Artik Bai He was a rich man of sixty-five or so and had four wives I was sent to his home now and then, and he gave me dried apricots Later on I learnt that I had been sent to him to be looked over as a bride. Artik Bai bought me as a wife for five hundred rubles. But my father took pity on me and tearfully begged the old men to annul the contract." Sara's foster-father had been driven by poverty to sell her to the *bai*. But the *bai* never saw her as his wife, because she managed to escape and take refuge in a children's home.

In the home she went in for amateur theatricals and made up her mind to become an actress. Afterwards, having added a couple of years to her actual age, the fourteen-year-old girl left for Moscow to enter the Uzbek Drama Studio attached to the Vakhtangov Theatre. There she was trained by prominent Russian actors, such as R. Simonov, L. Sverdlin, O. Basov, and others. How typical a path for non-Russian actors of the first generation in Soviet times: from a walled-in mediaeval court-yard to the world centre of theatrical art, to its loftiest summits!

After finishing the studio, Sana returned to her homeland. At the time the Uzbek stage was going through its heroic period. Led by Hamza, that fiery revolutionary, it boldly combated feudal tradition and fought for the emancipation of women as it exposed the *bais* and the Moslem clergy. It was then that Tursun Oy, Sara's closest and most loyal friend, was atrociously murdered just because she had dared to become an actress. But this did not frighten away Sara or anyone else among the artistes. They fearlessly fought on against the survivals of the old way of life. In 1929, Hamza himself lost his life in the struggle. Nevertheless, that struggle, waged by the young Uzbek actors side by side with the Communist Party, ended in the triumph of the Uzbek people.

To gauge the Uzbek people's progress since that recent and yet so very remote time, you have only to see any play presented by the Hamza Theatre, such as "Yangi Yer" ("The Silk Scarf") by Abdullah Kahhar (it has won a Stalin Prize and is shown by numerous theatres of the Soviet Union), or some other play by an Uzbek or Russian Soviet playwright, or one of the classics. You will be impressed by the interesting, peculiarly Uzbek directing of Mannon Uighur, co-founder (with Hamza) of the theatre. You will see a large cast of excellent professional actors who would do credit to any theatre in the world, actors like Abrar Hidoyatov, Sana Ishantunayeva, Abid Jalilov, Shukur Burhanov, Asad Ismatov, Lutfullah Narzullayev, Nabi Rahimov, Alim Khojayev, or Sagdi Tabibullayev. Most of them are Stalin Prize winners. Soviet cinema-goers are familiar with some of them who starred in "Tahir and Zuhra," "Navoi," and other pictures produced by the Tashkent Film Studio.

You should see "Othello," one of the best productions of the Hamza Theatre. Othello and Desdemona are played by Abram Hidayatov and Sara Ishantunayeva, People's Artists of the U.S.S.R. As you watch their performance, you never even think of making this comment which you could hear frequently in the early ten or fifteen years of the theatre's existence, "The Uzbek actors aren't bad at all, you know." The praise expressed condescension towards the actors' inexperience and lack of training, condescension that, although atoned for by heartfelt concern for the development of Uzbek culture, was there just the same, as if to say how hard it must be for Uzbeks to portray characters from an altogether different and distant world!

Today, fascinated at the very start by the play and the splendid acting, you forget everything else. And when the performance is over and the spectators break into rounds of cheers, when, having shouted yourself hoarse in summoning the actors, you find yourself at last outside, under a sky studded with big stars, you can sum up your impression somewhat like this: the Uzbek people have thrown off for good their shroud, their enormous turban which, as they used to say in Uzbekistan, can rival the whiteness of a snow-capped peak but is so heavy it makes its wearer's head droop to the earth, his eyes seeing nothing but mud, with never a chance to look up to the mountain-peaks.

12 OF A FESTIVAL

There is a festival the Uzbeks celebrate for ten days on end, after a preparation started well in advance. They celebrate it once in several years, away from home. They did it last in 1951. Several aeroplanes and a special train carried hundreds of people from Tashkent to Moscow for a ten-day Festival of Uzbek Literature and Art.

Ten-day art festivals in Moscow have become an established custom with the Soviet people. Moscow gaily welcomes their participants at the station, presenting them with flowers. During the last ten-day Uzbek festival, the biggest cinemas of the Soviet capital showed Uzbek films. "Soviet Uzbekistan," one of the films produced shortly before the festival, acquainted the people of Moscow with the republic. At the Moscow Circus Uzbek performers demonstrated national forms of

circus art. An exhibition of Uzbek painting and handicraft was opened at the U.S.S.R. Academy of Arts. Moscow book shops offered Russian translations of Uzbek novels, stories, and poetry, collections of folk songs, epic poems, and fairy-tales. The publishing houses in Tashkent had put out more than a hundred titles for the festival. Every day the Union of Soviet Writers invited outstanding men of letters of the U.S.S.R. to discuss books by Uzbek authors. Bills and placards graced with Uzbek carpet patterns announced concerts by Uzbek artistes in the best concert-halls of the city.

All the radio-stations of the Soviet Union broadcast the concerts, enabling the peoples of the entire land to hear Uzbek artistes. Thousands of Moscovites saw the concerts by television. Those with concert tickets held themselves lucky indeed, for they could enjoy the festival of Uzbek song and dance in all the wealth of colour presented by the national costumes.

Let us imagine we are at a festival concert. Halima Nasirova is singing the "Tanavar," a folk love-song of Ferghana, splendidly arranged for symphony orchestra by the composer Alexei Kozlovsky. You never have your fill of hearing that song, and you encore the artiste time and again to relish her skill in the folk technique of *avj* and *aks* (melody construction based on ascending and descending scales) and in deriving from that technique more and more new effects—now tender meditation, now entreaty, now passionate appeal. The very timbre of her voice, which is beautiful and so strong no orchestra can drown it, and at once so distinctive it engraves itself for ever on your memory, is a positive proof that her voice was nursed in the cradle of folk song. Perhaps that is why she is so good at Russian folk songs too, and why the Russian *chastushki* she sang during the festival brought enthusiastic applause from Moscow audiences. But let us get back to the "Tanavar." As Halima Nasirova, People's Artiste of the U.S.S.R. and Stalin Prize winner, stood on the stage of the Grand Hall of the Moscow Conservatoire, singing the "Tanavar," she was reminded of an episode, one so characteristic as to be worth telling.

Shortly before the festival, Halima Nasirova arrived for a recital at a cotton-growing collective farm in Tashkent Region. The fact is that for excellent work front-rank collective farms in Uzbekistan are often

rewarded with an appearance by their favourite singer, there is nothing surprising about this, since a recital by Halima Nasirova is a treat for Uzbek collective farmers, who worship her. And so, she arrived at the collective farm as a "singing reward." On hearing the news, the collective farmers rushed to their clubhouse, but as the building was none too spacious, many failed to get seats.

Finally, somehow or other everybody squeezed himself in. The lights were turned off. Halima Nasirova appeared on the stage and glanced over the hall where the half-darkness was unable to dim the shine in the collective farmers' eyes, set off by their tanned faces. The murmur of voices died down. Then the singer spoke.

"Five minutes ago," she said quietly, "your chairman told me there has been a misunderstanding. It seems that the harvest reports were mixed up in the district capital and as a result your collective farm turned out to be leading. But in actual fact your collective farm is lagging, and you know that very well. Now the Council of Ministers has sent me here to thank you for your good work. What shall we do?"

After a spell of silence, a little, grey-haired man stepped forward from the audience. He had a white handkerchief wound about his *tubeteika* and made fast on his forehead, according to an old *dehkan* custom, to absorb the sweat when he worked and prevent it from falling on his clothes. He mounted the stage and put his hand to his heart.

"Halima Khon," he said politely, addressing the artiste, "when we start work in the fields in spring, our collective farm pays us in advance for part of our work-day units. Since we've got together to hear you, why not advance us a little by singing a song? As for us, we promise you to work it off honourably and gather next autumn enough cotton to earn what we prize more than money—a recital by you."

The artiste burst into hearty laughter. And upon the request of the polite old man backed by the entire audience, she sang the "Tanavar" by way of "advance payment." The incident was spread about by word of mouth. Later the Secretary of the Party Committee of that district told the artiste, as he met her by chance in Tashkent, how deeply the collective farmers' self-esteem had been wounded and with what energy they had set to working off their "advance pay" to prove to their neighbours, who were making sport of them, that they were worthy

of a recital by Halima Nasirova. In the autumn of that year, when weighing-machines appeared in the fields of Uzbekistan and bales of cotton were piled up not far from them, the members of the collective farm showed to all that they had really advanced to the fore. They sent to the famous artiste a deputation for the express purpose of informing her of their achievements. Halima Nasirova responded by giving a grand recital at the collective farm.

As you compare this simple episode, one of many, with the day when Halima Nasirova sang before people all over the country, at the Moscow festival, you fully grasp the meaning of those two short words, "folk art." It is folk art, born of the people and serving them. The same thoughts come to you when attending a performance by the ballerina Galiya Ismailova, Stalin Prize winner, another outstanding Uzbek artiste and a favourite of the students of Tashkent and Moscow.

In 1949, when Galiya Ismailova went to Budapest as a member of the Soviet Delegation to the International Youth Festival, she was a young dancer known only by few. As she was performing at the festival the "Zang," a Tajik folk dance with bells, the whole audience rose in their seats (a fact shown well in the "Youth of the World," a film about the festival), the better to see the masterly movements of her hands, so expressive and beautiful as to defy even an approximate description. At the Budapest festival she won the title of Laureate.

Each concert of the ten-day festival in Moscow was spread out before the audiences like a wonderful carpet woven by skilful craftsmen. One can never forget the group dances produced at those magnificent concerts by Mukarram Turgunbayeva, Stalin Prize winner, an accomplished Uzbek folk dancer. She made use of costumes with a consummate art akin to that of oriental conjurers, the "Costume Dance" had the most striking of colour effects. And there is hardly anybody who will not remember for ever the performances by Tamara Khanum, Stalin Prize winner, one of the best artistes of the Soviet concert stage, who renders folk songs and dances of many peoples of the U.S.S.R. with equal verve and skill. At the festival concerts everyone clapped until his hands were sore, acclaiming Halima Kamilova and Irgash Shukurlayev, two dancers Laureate of the International Youth Festival in Berlin. Shukurlayev performed the "Dish Dance" in which a dish

now lay balanced on his head as he danced, now shifted, whirling, to his back, then returned to his head, like a living thing. The dance takes one back to sunny Fergana Valley, to the brimming gaiety of popular games and jokes. There were many other things—no use trying to cite them all. Nor can words express all the splendour, music, and rhythm of that unique spectacle.

The tambourine is nothing more than a drum, but in the hands of the Uzbeks it comes brilliantly to life. Out of remote ages, out of hoary antiquity, they brought their skill on the *douira*, a large sonorous tambourine, to the art festival in Moscow. And the capital's concert-halls rang with melodies never heard before, *douira* melodies in which long-drawn notes, punctuated by low, sobbing whangs, make up a kind of background for a cascade of swift, short drum-beats of different sound. It seems as though not only the tambourine but the very air around it is singing and resounding in response to the player's hand, which now shoots with the tambourine high up above his head, now comes smoothly down to his chest, as to a sounding board.

The particular sound qualities of the folk instruments also imparted a distinctive character to the Uzbeks' concerts in Moscow. The instruments are the ones that the Uzbek people have played for centuries, and yet not the same; they have been remade. To introduce Uzbek folk instruments into the symphony orchestra and thus enlarge its range, it was necessary to reshape the instruments, retaining their characteristic timbre but increasing their sonority, so that they should not be drowned out by other instruments. A group of experts and musicians worked on the problem in Tashkent for several years.

Formerly mulberry wood was held to be the most "sonorous" in Uzbekistan. Now they make their instruments from other woods that sound far better, namely, fir or pine poor in resin. Some of the instruments, such as the *gijak*, now have necks, and their strings have been raised higher. Still the player holds the *gijak* exactly as before, that is, vertically, with its lower end resting on his knee, as distinguished from the violin. This enables him to use the *gijak* bow, which is strung with "dangling" hairs, and to vary the tension of the hairs with his fingers as he performs, spreading them out flat like a ribbon, a circumstance

of importance for the fullness of sound. The *gijak* bow enables the player to obtain distinctive sound effects.

The people of Moscow remember the ten-day festival as one of music, dances, and books. As for its participants, what was engraved on their memories more deeply than anything else was their meetings with people. The workers of the Moscow Tryokhgornaya Mill, who make beautiful fabrics of Uzbek cotton, joyously welcomed at their mill the Uzbek writers and artistes who had come to give a concert. The personnel of the Stalin Works, students of Moscow University, and railwaymen were happy to receive participants of the festival. The Uzbek writers' interview with Nazim Hikmet, the eminent Turkish revolutionary poet, released shortly before from jail in Turkey, reminded them of the tragic fate of the working people in the foreign countries of the East. Everyone was deeply moved when Nazim Hikmet, shaking hands with Fazil Yuldash, an aged narrator of Uzbek folk tales, put his forehead, like a son, to the old man's hand.

The ten days are over, the festival has come to an end. Now the station platform in Moscow is alive with people who have come to see off the Uzbek friends. And now the Uzbeks are back in their own republic.

13. CHIRCHIK

In every major capital in the Soviet Union you will hear the whistle of locomotives in the morning, you will see suburban trains carrying workmen, you will find railway lines running out in all directions to the capital's family of industrial towns. Tashkent is a young capital and so has not had time to build up a large family. Still, it has four scions, four new industrial centres that have grown up round it: Chirchik, Angren, Yangi Yul, and Begovat.

Chirchik, the Uzbek capital's firstling, is named after a tributary of the Syr Darya. Although the Chirchik ripples in every Tashkent *arik*, the present-day inhabitants of Tashkent never think of the river when they hear its waters gurgling under their windows. They recall the name only when they switch on the light, for in Tashkent the word *Churchik* has become synonymous with *electricity*.

When going by a workmen's train from Tashkent to Chirchik you are at once struck by the sight of the lacy masts of high-tension lines that stride across the green suburban orchards and melon-patches.

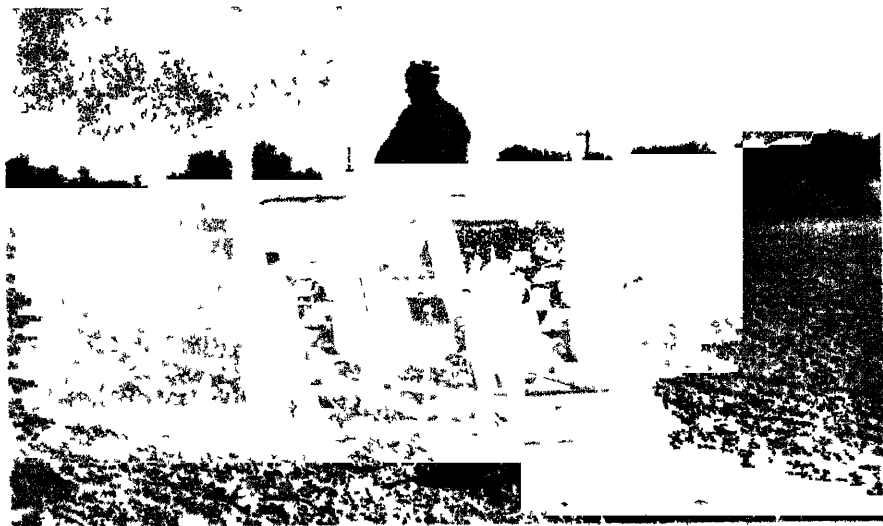
Uzbekistan is unusually rich in hydro-electric power. Academician B. Vedeneyev has estimated that if the power resources of all her rivers were fully utilized, Uzbekistan would produce three times as much electrical energy per capita of the population as the Urals or the Volga region, and eighteen times as much as the Ukraine or the central zone of the European part of the Soviet Union. The hydro-electric potential of Uzbekistan exceeds ten million kilowatts. Before the Revolution no use was made of that wealth. Tsarist Russia held fifteenth place in the world in power output, and in Uzbekistan the per capita production of electric power was one-fourteenth of the average for Russia.

As late as a quarter of a century ago you could have seen, stretching along the upper Chirchik Valley, a narrow strip of *tugai*, or thickets, in which you might have come across a wild boar. The surrounding country was just sun-scorched, hilly steppeland where the only object likely to catch your eye was a poor man's lonely *yurt*, a weather-worn tent of the kind of which they used to say, "Of a thousand stones thrown upon it, none stays on top, they all fall in through a thousand holes." And this other saying was descriptive of life in such a *yurt*: "Inside it we can see nothing but the stars when we look up, or the black earth when we look down."

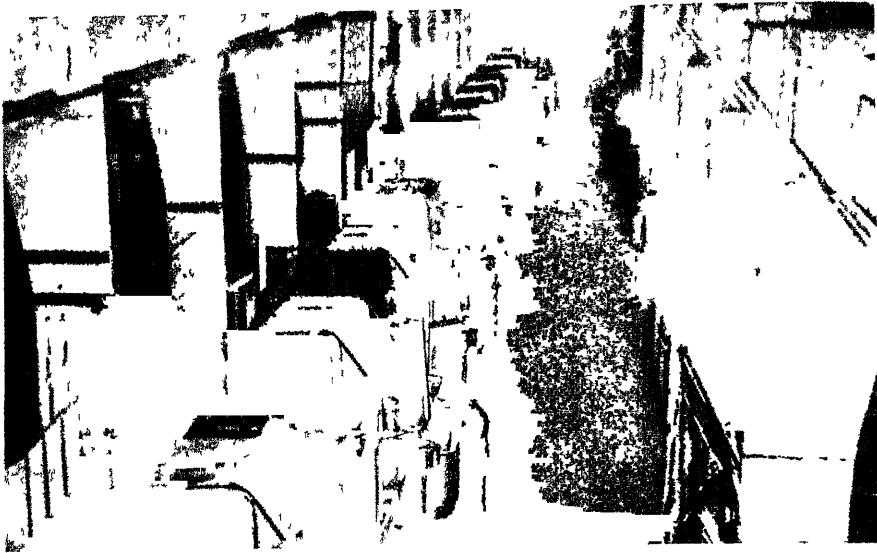
Lenin's plan for the electrification of Soviet Russia, the famous GOELRO plan, included the construction of two hydro-electric stations in Uzbekistan. The first to be built on the Chirchik, the Bozsu Hydro-Electric Station, was commissioned in 1926. It was followed by dozens of plants on other rivers of the republic. Already before the Great Patriotic War—in 1940—Uzbekistan was producing four times as much electric power as Egypt, whose population is double that of Uzbekistan. As to neighbouring Afghanistan, by then the Uzbek Republic had surpassed her by thirty-nine times in power production. To-day Uzbekistan is the fourth greatest producer of electric power in the Soviet Union. In 1950 she generated upwards of 2,000 million kilowatt-hours of power, which is more than all tsarist Russia produced in 1913.



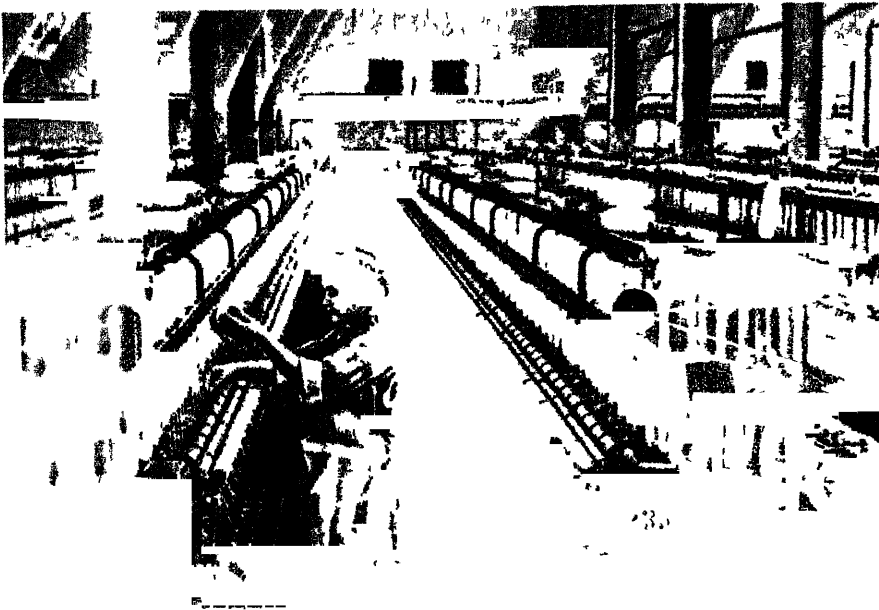
Some of the Uzbek artistes who took part in the Ten-Day Festival of Uzbek Literature and Art in Moscow in 1951 (right to left) Mukhtar Ashrafi, People's Artiste of the Uzbek S S R, Stalin Prize winner, Halima Nasirova, People's Artiste of the U S S R, Stalin Prize winner, Galiya Ismailova, Honoured Artiste of the Uzbek S S R, Gulnar Mavayeva and Halima Kamilova, soloists of the Alisher Navoi Opera



Cutting irrigation furrows with a universal attachment made at the Agricultural Machinery Works in Chirchik



Assembly of cotton-picking machines at the Tashkent Agricultural Machinery Works



A section of a shop at the Stalin Textile Mill, Tashkent

The oldest "electric river" in the republic is the Chirchik. Thirteen powerful automatic electric stations with remote control have already been built on the banks of canals diverted from it. Their number is to reach twenty, which will make it the greatest cascade of hydro-electric stations in the world.

Transmission lines strung on tall masts criss-cross the Chirchik Valley. The electric power they convey day and night keeps factories and mills going, and lights towns and *kishlaks*. Among them is the new town of Chirchik.

By night the sky above the town is aglow for many miles around with electric lights fed by the Chirchik cascade of power stations. Here, where nomads used to pitch camp, the streets of a socialist town with large blocks of flats, light-filled school-houses, cottages, a Palace of Culture, clubhouses, and orchards, came into being with fantastic rapidity. The newness of Chirchik reminds you of Tashkent's Textile Town. But its wide thoroughfares, the broad Zakh Canal wrapped in mist in the morning, and the smell of wormwood brought by the wind from the foothills, impart to the town an air all its own, austere and virile. It owes its specific appearance also to the canals lined with ferro-concrete, its huge travelling cranes, and numerous railway sidings along which trains roll to the Chirchik Electrochemical Works, a giant enterprise built under the Third Five-Year Plan (1937-42).

The history of Chirchik begins with the construction of that works. It was a tremendous project, involving the excavation of twice as much earth as at the Dnieper Hydro-Electric Station. All Uzbekistan was concerned with the project, for the products of the works were to revolutionize cotton-growing.

The Chirchik workers call themselves "makers of land." Nor is this a figurative expression. They are really engaged in making the land of Uzbekistan. At the Electrochemical Works they produce nitrogen, that is, nitrogen fertilizers for the cotton-fields. Truck-loads of fertilizers leave the works in an unending stream. But nobody has ever seen trucks loaded with raw materials roll in through its gates. The only raw materials the giant works uses are the ice-cold water of the Chirchik and the pure air of the foothills. With the aid of electricity the Chirchik workers convert air and water into nitrogen fertilizers.

Besides the square blocks of tall houses, new large machine-building and other enterprises have risen round the Chirchik Electrochemical Works. In short, Chirchik is now a big industrial town. It holds an important position in the Uzbek Republic primarily as an embodiment of Lenin's idea of electrification.

14 THE STAKEHOLD OF UZBEKISTAN

The second member of the family of young towns that have risen round the Uzbek capital is Angren. To get there you have to board a workmen's train in Tashkent. Your fellow-passengers are miners.

Your train takes you along a branch-line to the Angren Valley. It carries you over a track powdered with coal dust and winding like a black serpent between light-green rice-fields. Hills and solitary crags appear with growing frequency on your right and left, and the darkening mass of two mountain ranges, the Chatkal on the one side and the Kurama on the other, moves closer and closer. In the course of thousands of years the Angren River has sawed its way through those ranges and parted them, laying bare coal and other riches hidden deep in the earth.

There was a time when iron ore was mined in the area. The name *Angren* is a distortion of the mediaeval *Darya-ye Ahangaran*, which means *Ironworkers' River*. An interesting legend is associated with the name.

When Iskander Zulqarnain—Alexander of Macedonia—was drawing near with his warriors, whose "teeth were itching with malice and greed," there lived in a beautiful castle on the Lower Ahangaran a prince by the name of Hamra. He had just taken for wife a beauty—"her eyebrows were like beavers"—and was carried away by love, so much so that "his ears were shut to everything else." It was in vain that a poet addressed to him these fiery words, "When sparks are flying from swords, is that the time to catch up the sparks flying from the eyes of thy beloved?" Hamra remained deaf to reason.

Then Bobo Kambar, an old ironworker, gathered his apprentices "May poverty perish, for it causes sorrow, but love is even worse than poverty!" he cried, and led them away into the mountains. There they

dug in secret a new, underground bed for the Ahangaran. And the inhabitants of Ahangaran suddenly saw that the water in the river had dried up to the last drop. And they all were sorely afflicted with thirst, and scattered. And then the warriors of Iskander came, but having learnt that water famine was raging in Ahangaran, they did not dare to enter the place, and went away.

Thus the ironworkers saved their country from fire and pillage. When the invaders were gone, the ironworkers turned the Ahangaran back into its former bed.

Such is the legend, in which the people expressed their dream of bringing Nature under the sway of man. In Soviet Uzbekistan the dream has turned into reality. Soviet man has become master of the rivers. Let us look, for example, at the Angren.

Until not so long ago there was a severe shortage of irrigation water along the Angren's lower reaches. Then Soviet irrigation engineers decided to channel water from the swift Chirchik into the Angren. To this end the Molotov Canal was built shortly before the Patriotic War of 1941-45, and Angren waters, mixed with those of the Chirchik, flowed across the fields of Ak Kurgan District where coloured varieties of cotton are raised exclusively.

Elsewhere on the Angren, up in the mountains, Soviet engineers accomplished the technical task reflected as a dream in the Legend of the Ironworkers. It was after a coal seam was discovered in the gorge of the Angren, powerful mechanized mines were built, and a mining town sprang up close by. D. Bogdanovich and G. Chekrizov, geologists (now Stalin Prize winners), lived in that town, continuing their investigation of the Angren coal deposits. They discovered that the seam lay partly in the river bed—in other words, that the river flowed over coal. That gave rise to the idea of shifting the river so as to take the coal from the surface, by the open method.

Soviet people diverted the former Ironworkers' River, now a river of miners, into an offtake and there embedded it in concrete slabs and stone ledges. And in the narrow gorge where the Angren had foamed and roared only recently, a mechanized coal cut, the second in the Soviet Union, came into being.

Everywhere in the coal cut you can see the booms of excavators thrust up into the sky. The huge scoops of UZTM electric excavators, made in the Urals, move along the deep trenches of the cut. They load Angren coal into tip-up trucks. To change its position, a walking excavator of the ESH-1 type thrusts out its metal skis and steps smoothly forward. The grinding and clangour coming from all sides are so loud you can hardly hear the explosions by which setfires loosen coal, only a black cloud of coal dust, shooting upwards now here, now there, helps you catch the echo of an explosion. The description of the coal cut would be incomplete if I were not to mention the locomotives that hustle back and forth almost without let-up, bringing empties to the coal trenches, pulling away trucks full of rock, or hauling heavy train-loads of coal to the station trunk-line.

Not far away, against the background of mountains, stand the waste piles of the Angren mines and the slender headframes where "black gold" is lifted to the surface in an unceasing stream. Mining and transporting coal from the face to the pit-yard are also done mechanically, by a powerful scraper conveyer, belt conveyers and electric locomotives doing the job. Mining-timber is continuously delivered to the pits in railway trucks.

The scene is majestic when viewed from a mountain peak: the coal cut and the mines on the left bank of the blue river, and the tree-lined streets of a socialist town, on its right bank. People cross the river over bridges spanning it here and there. Angren is much younger than Chirchik, but its population runs already into the tens of thousands, and it boasts a theatre, two cinemas, three clubhouses, libraries, four hospitals, more than a dozen schools, stadiums, kindergartens, an electric power station, and a modern water-supply system.

The town is growing rapidly. Not only beautiful houses but a large cement works are under construction—evidence that the miners have settled there for good. But what the people of Angren take most pride in is the gas works to be erected. And then, when a gas main has been laid to the Uzbek capital, the word *Angren* will be synonymous, to the Tashkent housewives, with *gas-range burners*, just as the word *Chirchik* is now synonymous with *electric light*.

15 THE NEW WAY

To see Yangi Yul, the third scion of the Uzbek capital, you may board a train in Tashkent. But it is preferable to drive to Yangi Yul, not only because the highway takes you through the town itself but because it is, both literally and figuratively, that *yangi yul* ("new way") along which culture has moved to the Uzbek *kishlaks*.

Not so long ago Yangi Yul, situated in the middle of the Tashkent Oasis, was an ordinary *kishlak* famed only for its melons. Hence its former name, Kaunchi, or "a place rich in melons."

Driving to Yangi Yul, you see along the highway orchards and vineyards surrounded by clay walls, and melon-fields, as in any Uzbek oasis. But more often than not your eye falls on cotton plantations, which in autumn look as though flocks of white birds were sitting on them. This is the most advanced cotton-growing area in the republic.

On the Yangi Yul plantations, new varieties of cotton have been evolved. On both sides of the highway you can see numerous machines at work, those, too, are of the latest types. Your car rolls past collective-farm power stations built on broad *ariks*, past sluices, large and small, whereas formerly there were hardly any sluices in Central Asia. In the life of the Uzbek *dehkans*, all this has become their *yangi yul*—their new way.

As you approach the cottonseed-oil mill in Yangi Yul, you find the telegraph wires fluffy with cotton fibre that has caught on them, brought by the wind from working machines. But on the country roads you will not see any wisps of cotton, for everywhere along them, on telegraph poles and the walls of some of the houses, hang special boxes into which the passers-by consider it their duty to put each wisp of cotton they may come across. This solicitous, thrifty attitude towards the people's property has also become the *yangi yul* in the life of the Uzbek *dehkans*.

Yangi Yul has an atmosphere all its own. There the large blocks of flats in industrial districts alternate with the little clay-fenced courtyards of *dehkans*. In the *chaikhana*, colourfully patterned *palases* and carpets appear side by side with the tables of a modern restaurant.

The town is a cultural centre as well. Gifted young men and women arrive there from all over the Republic to enter the musical school for collective farmers, and in the streets you can hear songs from all the Uzbek oases. In the main street of Yangi Yul rise a theatre and the Victory Cinema, which in size, comfort and beauty has no equal in Central Asia, not even in Tashkent. In the evening you can see near that building saddled horses hitched to posts, motor-cycles, and rows of motor-cars and lorries—collective farmers have come from all over the district to see a new film.

Yangi Yul District is a district of millionaire collective farms and of new *kishlaks*, one where agriculture is fully mechanized.

Stalinchi is a collective farm in Yangi Yul District. The village there once lay in the midst of four hills and was accordingly named Turt Tepe, that is, Four Hills. Old people are fond of saying that the misery of the village could be seen equally well from any hill. The *kishlak* was a huddle of squat, crumbling mud-huts. The other *kishlaks* of the district, and Kaunchi (Yangi Yul) itself, looked no better before.

The village of the Birlashu Collective Farm, too, had a similar appearance fifteen years ago, when two men arrived there late in autumn. One of them was Yuldash Akhunbabayev, Chairman of the Central Executive Committee of Uzbekistan, and for the other, no one knew him at the time. Accompanied by the chairman of the collective farm and a brigade-leader, the two men walked out into a humpy field thinly covered with puny cotton-plant stalks.

"Look, Hamrakul," said Akhunbabayev to the man who had arrived with him. "The Birlashu Collective Farm has gathered on this land only 535 pounds to the acre. Our friend here says"—Akhunbabayev indicated the chairman with a nod—"that on this sort of land you can only graze sheep and pick weeds and camel thorns for fuel."

"You can't blame the land," said Hamrakul. "Land wants care."

"That's what I think, too," said Akhunbabayev with a smile, "but I'm not sure the chairman here isn't going to blame the *chaikhana* for being dirty or the collective-farm stables for falling apart."

Later that day Akhunbabayev hit on the idea of moving a hundred Ferghana families to the waste land next to the Birlashu Collective

Farm, to show to everybody in the Tashkent Oasis that the land there can yield as big cotton crops as in Ferghana. Ferghana men responded to his call. The new collective farm thus formed was headed by Hamrakul Tursunkulov, Akhunbabayev's companion, who had gone with him through the Civil War. The collective farm, named after Kaganovich, was built up by Tursunkulov and became the best cotton-growing farm not only in the oasis but in the whole Uzbek Republic.

To see the changes that the Kaganovich Collective Farm has brought about, you should visit it several times, taking a new guide on each trip.

It would be a good idea to have as your guide A. Babakhanov, the architect who designed Mehnat Rahat ("Peaceful Labour"), the collective farm's new socialist settlement. He could show you every house as no one else could. Everything seems to have been provided there, from new cottages and public buildings to a pharmacy and an automatic telephone exchange, all of them sturdily built, convenient, attractive. But you would learn from the architect that this is only a beginning; he would tell you about plans for an even more beautiful future, about further construction being designed by Dolgov and Jahangirov, two other architects.

Nor would it be a bad idea to make a trip to the collective farm with a scientist specializing in cotton-growing, such as Sergei Stepanovich Kanash, Stalin Prize winner, a famous plant-breeder. He would naturally take you to the cotton-fields. And he would show you that every section of the fields lives a life of its own and has features distinguishing it from all the others.

Towards evening you would find yourself with Kanash in the office of the Collective-Farm Board, where you would hear him and Tursunkulov sum up their impressions of the day. Tursunkulov is perfectly versed in cotton-growing; he is one of the collective-farm chairmen who have been awarded twice the title of Hero of Socialist Labour for raising bumper crops on the entire land of the collective farms they head. Besides, the people have elected him to the Supreme Soviet of the U.S.S.R., just as they have Kanash.

The cruel Tamerlane, who devastated foreign lands, plumed himself on his wit and was fond of saying, "A ruler who means less than his

lash is not worthy of being a chief" He glorified the lash. Wielded by Tamerlane, by feudal lords, and by tsarist officials, the lash swished for hundreds of years over the heads of the Uzbek *dehkans*, artisans, and folk singers. Then the greatest of all revolutions came, Russia's revolutionary workers struck the lash from the hands of the tsar and did away with the Russian Empire, that "prison of nations." In a village near Samarkand, once the capital of Tamerlane, the people composed a song containing these words. "Lenin said, 'You may sing anything you like.' And all singers at once sang of Lenin!" The words expressed the people's gratitude to Lenin, to the Communists, for helping them to become free for ever. Men of labour began to govern the country. Tursunkulov is one of them.

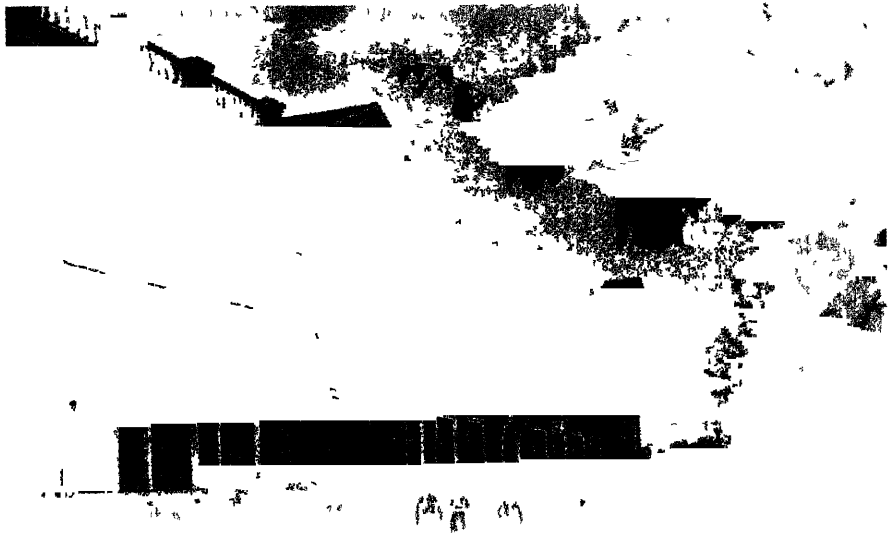
A few figures taken from the charts hanging in the office of the Kaganovich Collective Farm, give a clear notion of life in that large farming unit. People of eleven nationalities work side by side on the collective farm, which has 250 specialists representing 43 occupations. Many of the collective farmers own motor-cars. Already in 1951 the total income of the collective farm exceeded 22 million rubles.

Following the Kaganovich Collective Farm, all the others in the district took the *yangi yul*—the new way, the Kaganovich Collective Farm is the oldest member of the family of "millionaires." Whether you go to Stalinchi, the Voroshilov Collective Farm, or any other in Yangi Yul District, everywhere you will see, in things big and little, features of communism.

The important fact is not that you will see model fields where nine-field cotton and lucerne crop rotations are practised, or cotton-picking machines, or model silk cocoonerics, or new houses, or clinics, nurseries, baths, bakeries, garages, clubhouses, or a "*Red Chaikhana*" where a study-circle in the history of the Party has gathered for discussion, because you can see all that on the republic's other collective farms as well. But while elsewhere many of these things are still a novelty, on the Yangi Yul collective farms they have for a long time now been part of the everyday life of the people, among whom new human relations are coming plainly into being.



The main building of the Kaganovich health and holiday centre



Secondary School No 10 in Yangi Yul



Children's Nursery No 8 in Chirchik



Lenin Street in Chirchik

16. MAKERS OF AN INDUSTRIAL COUNTRYSIDE

Also a part of the *yangi yul* in the life of the Uzbek *dehkans* are two institutions in Yangi Yul District famed all over Soviet Central Asia. More, they have completely reshaped the *dehkans'* life. But before naming them, I have something else to tell.

In 1939 an ordinary *ketmen* was displayed in the Uzbek Pavilion at the U.S.S.R. Agricultural Exhibition in Moscow. How came it that a primitive hoe attracted so much attention? Why did visitors from Moscow and Zaporozhye, from Stavropol and the Far East, crowd round it? Because with the aid of the *ketmen* the Uzbek people had just performed a heroic feat: in six weeks they had built the Great Ferghana Canal (160 miles long). And the man who demonstrated, at the Exhibition, the way to use a *ketmen* was Dunan Dusmatov, a celebrated *ketmen* worker on that construction job. After four thousand years of existence, the *ketmen* was thus raised to fame, just before it started to pass out of use.

In Uzbekistan's oases the *ketmen* was for centuries the principal and universal agricultural implement of the *dehkans*. They used it to dig large canals and small irrigation ditches, to channel water into *ariks*, to cultivate fields and orchards. There were no specialized machines for the cotton-fields.

There were no such machines on the cotton plantations of the United States, either, where agriculture was better equipped technically, a quarter of a century ago, than elsewhere. True, experimental machines were used there. But not even today are such machines factory-produced on a large scale. Negro labour on the cotton plantations in the South—virtually slave labour—is so cheap that the American planters do not care to spend money on machines. Besides wearing out the plantation labourers physically, the life of toil impoverishes them mentally. Illiteracy, submissiveness inspired by fear, superstitions, and social passivity are natural results of slave labour.

In pre-revolutionary Uzbekistan the situation was similar. The Russian collective farmer who raises grain, fruit or vegetables and has never seen a cotton-field, would find it hard to imagine the amount of work that the Uzbek *dehkan* had to do. The cotton-field held the *dehkan*

captive the year round. Until recently Ferghana Valley and some regions in Italy held first place in the world with regard to the amount of labour invested by the peasants in each acre of cultivated land. And although the *ketmen* has an exceedingly long handle, a great relief in the hot Uzbek climate (because it enables its user to work without bending his back and so prevents the blood from rushing to his head), every square inch of that handle was saturated with sweat.

Naturally, such a state of affairs could not be tolerated. The *dehkans* had to be freed from exhausting manual labour, and the labour processes had to be mechanized.

The Soviet people tackled mechanization of cotton-growing on a sweeping Bolshevik scale. They began inventing and building. In Yangi Yul you will find the centre of that creative work—the mechanization station of the U S S R Research Institute of Cotton-Growing, where all experimental machines for the cotton-fields are tested and perfected before their production is started. Dozens of engineers work there. The machines designed by them have revolutionized the life of Uzbekistan's cotton-growers, and it is now hard to picture an Uzbek *kishlak* without those machines.

Where all-round mechanization has been effected in Uzbekistan, an average of 240 machines of thirty-five types are today engaged on every 2,500 acres of the cotton area. The number of tractors alone that work on every 2,500 acres under cotton is now fourteen.

But to fully picture the tremendous importance of those machines for the destinies of the Uzbek people, it is not enough to visit the mechanization centre; you should go to another institution in Yangi Yul, namely, the Second Yangi Yul MTS (Machine and Tractor Station). It is a key station, a model, and its methods are studied by the other Uzbek machine and tractor stations.

On arriving at the Second MTS you should ask its manager to communicate by wireless with Ikram Ibrahimov, a brigade-leader, or with Rahmat Nishanbayev, a famous tractor-driver who works in Ibrahimov's brigade. That is easily done because the wireless-sets installed at the machine and tractor stations of the Uzbek Republic assure two-way communication with the brigades.

Out in the fields you will see mechanized collective farming. And if

you look into the yearly time-table of the brigade's work, you will be struck by a circumstance (in case you have come from afar)

At any MTS in the Russian Federation, the tractor-drivers and combine-operators carry out five basic operations in the fields under grain crops: they plough the land in autumn, harrow it in spring, introduce fertilizers, sow, and harvest. In a cotton-field, however, an incomparably larger number of jobs have to be done. I shall cite here the principal ones only.

The beginning is the same, that is, tractors plough the land in autumn. Then excavators and suction dredges arrive in the fields to repair the large irrigation ditches and remove silt. The collective farmers alternate this job with winter waterings of the soil in order to wash it, which is done as many as four times in the case of alkalified soil. Then, simultaneously with mechanical harrowing, tractor-drivers introduce chemical fertilizers by means of fertilizer drills. Digging machines then cut irrigation furrows. They are followed by cotton-seeders. Later, when the cotton has sprouted, the shoots are thinned out with a tractor-drawn implement. Then tractor-drivers haul cultivators into the fields, and the "upbringing" of each cotton-plant is begun. There follows the "Crop Accumulation Period" when special machines loosen the soil in each field from six to eight times in the course of the summer and simultaneously attachments mounted on the machines feed additional fertilizer to the cotton-plants. During the same period the collective farmers apply irrigation water from three to seven times. They also top the plants. But this process, too, will soon be mechanized—a topping machine, the first in the world, has already been designed and is now being tested. At last the cotton is ripe. Universal spraying machines sprinkle the shrubs with a special fluid to strip them of leaves before mechanical picking starts. The next to get to work are picking-machines, as they move along, a broad stream of cotton flows from the shrubs into huge bunkers. When picking is over, there still remain in the fields *kuraks*, or unopened cotton-bolls. They are taken care of by *kurak*-picking machines. In conclusion stubbing-machines remove from the fields the *guzapaya*, or cotton-plant stalks.

Three decades ago all that was done by hand. Besides, the Uzbek *dehkans* bred silkworms, cultivated rice, grapes and other fruit,

vegetables and melons, raised livestock and poultry, and so on. In these numerous branches of farming, ingenious machines and devices are used today, operated by former *dehkans*, who are now tractor-drivers, fitters, or mechanics, men of a new, socialist countryside.

"Nowhere are machines used so willingly as in the U.S.S.R.," Joseph Stalin said, "because they economize the labour of society and lighten the labour of the worker, and, as there is no unemployment in the U.S.S.R., the workers use machines in the national economy with the greatest eagerness."

All-round mechanization of agriculture has emancipated the Uzbek people, given hundreds of thousands of men and women much more time, made it possible to transform the Uzbek Republic into a vast school, led to higher crop yields, and provided the opportunity to irrigate and put to use more than 2,500,000 acres of new land. It enables the Uzbeks to change an even greater expanse of barren land into thriving oases.

17. MORE ABOUT WATER

The train goes south from Yangi Yul. It races over the bridge spanning the Syr Darya and passes Vrevskaya Station, renowned for its state-owned pedigree cattle farms and its dairy factory. One of those stock-farms is making interesting experiments to develop a new cattle breed by crossing East Frisian cows with pedigree zebu sires.

Vrevskaya is left behind. After the train has passed a few more stations, a few tiny oases, you see no more vegetation. You have entered the Hungry Steppe.

Early in spring, soon after the snow melts, the Hungry Steppe is covered from end to end with luxuriant grass, giant umbelliferous plants, and tulips and other flowers. Legions of birds come flying. Tortoises crawl out of their holes. Kazakh herdsmen bring their cattle, and the steppe resounds with songs and the crackle of herdsmen's whips. But towards the end of May the colours fade, the grass withers, the birds fly away, the tortoises hide in their holes, and the herdsmen drive off their cattle. Then, lifeless and desolate, the Hungry Steppe lives up to its name. On its clayey, sun-cracked soil you can see, here

and there, only the bones of animals, or the wind-scattered dried stalks of plants, stalks that from afar look as white as the bones.

In that fertile but arid steppe you realize with particular clarity what water means in Uzbekistan

Only Central Asia could have given rise to this proverb, "If you cannot help crying, at least gather your tears," so highly was every drop of water prized there. And to see that the water in the oases was used sparingly, the people had appointed, since ancient times, *arık aksakals* and *mirabs*

I recall Muhiddinov the *mirab*, one of the preceptors of my adolescence. By distributing water honestly he had won general confidence, so much so that people consulted him almost on any private matter. He tirelessly taught us boys the oriental code of propriety, which holds respect for water of no small importance. I have not forgotten, for instance, that in Uzbekistan it is improper to cool your tea by blowing on it and that filling a *piyala* with tea up to the brim shows lack of manners and disrespect for a guest. Muhiddinov used to close his talks with us boys about water with this maxim, which he apparently thought full of the deepest meaning, "A drop of water is a precious diamond." Another expression of his, "One heart gives water to another," is especially engraved on my memory, he likened water to that which is most sacred in life—friendship and love. To us boys he seemed the most just of men.

But now that many years have rolled by and realistic ideas of life have replaced the romantic notions of youth, and Muhiddinov himself has long been dead, I confess I doubt whether he was really as fair as he appeared to be. Perhaps his fairness was forced. You see, his land lay at the tail end of the irrigation network and so was the last to get its share of water. If he were to have supplied someone with a little extra water, his own kitchen-garden and vineyard would have withered. It was not uncommon in Uzbekistan to appoint as *mirabs* men whose land was situated at the end of an *arık* system. In this way, with the aid of water itself, the people tried to guard themselves against abuses in water distribution.

Water was sometimes used as a weapon, too. The army of a Chinese emperor which invaded Tawan (Ferghana) in the first century B.C.,

had a special corps of water-diverters. Having laid siege to Kueishan (ancient Kokand), the capital of Tawan, the Chinese diverted the water from the city, and the inhabitants had no choice but to ask for the terms of surrender. Thus the *ketmen* sometimes turned out to be a more terrible weapon than the sword or the spear.

Throughout the centuries water in Central Asia was seized, sold, fought for, stolen—despite the fact that under the *Sharia* it was declared a gift of Allah that no one might own. But there were even instances of the *kalim*, or bride-money, being paid in water, water was lent by *murabs* at usurious interest. It was by fighting for water that the young Soviet State began socialist reorganization of the Uzbek oases.

One day in 1929, as I was wandering about an old cemetery in Tashkent, my eye fell on a tombstone that did not differ from the neighbouring ones except perhaps in freshness. Sun and wind had not yet chipped the baked bricks of which it was built. Like the other tombstones, it bore an epitaph in Arabic characters. But this was an unusual epitaph. It had been sanctified by blood and death and the spirit of recent events, whose grandeur we are beginning to realize properly only now, after some time has elapsed.

The epitaph read as follows: "Sunshine fathers the crops and water mothers them. You fought to make the people the owner of water, Comrade Yunusov. We swear to take away from your murderers both water and sunshine."

It was in vain next day that I questioned members of the staff of the local museum about Comrade Yunusov. They could tell me nothing. Then I turned to the first old Uzbek I came upon. He sat near the carved wicket of his house, selling cherries. He at once recalled the name, for he owned an orchard, which meant that any event relating to water was of vital concern to him, one he never forgot.

Here, in a few words, is what the old man told me about Yunusov's death. In 1925 Yunusov, a young man of twenty-two, was appointed to carry out the land and water reform. The *bais*, who to all practical intents owned the water, tried to bribe him. But he refused their gifts. Then they shot him from ambush and fled to join the Basmachi.

Yunusov's life was short and his death tragic, but not so very

uncommon at the time. I remember that another official was drowned by the *bais* in Ferghana Valley in the same year when the land and water reform was being effected. They tortured him by throwing him into a main irrigation canal four times and then pulling him out and reviving him. The fifth time, they drowned him. Those *bais* were pupils of the court executioners of the Orient whose feverish imagination had suggested even more refined atrocities. It was a period of bitter class struggle, for nationalization of the main canals meant for the destinies of Uzbekistan not less than nationalization of her land. The men who controlled a district's water controlled its life, and they would never relinquish that power of their own free will, without giving battle. So the people carried out a determined, and successful, struggle against the *bais* for water.

Twenty-five years have passed since Yunusov's death. His friends took the water away from his murderers long ago, and no doubt the sunshine too. Besides, they built him the greatest monument a man could dream of.

Look at the young, tender green of trees planted along the new canals that criss-cross the desert. Remember the sharp-breasted gulls that scream above the foaming waves of the Katta Kurgan Sea, a large new reservoir brought into being in the bare steppe. In winning land from the desert, the Uzbeks have dug hundreds of canals and even built a sea—as great a feat as that performed by the Dutch in pushing back the sea.

It is as hard to win land from the desert as from the sea. For centuries the Dutch combated the sea, and the whole world extolled their industry and tenacity. Let us then extol the industry and tenacity of the Uzbeks. Within a mere quarter of a century the Uzbeks won from the desert more land than the Dutch did from the sea during many centuries. The Uzbeks have irrigated more than 2,500,000 acres of land since Yunusov's death. The area of newly irrigated land nearly equals one third of Holland's territory.

That is only the beginning. Now the Uzbeks are building new canals, in particular, they have set about irrigating, in collaboration with the Kazakh people, the Hungry Steppe, an arid region nearly twice as large as Holland.

18. IN THE HUNGRY STEPPE

In 1949 I chanced to watch the following scene in a cosy *chaikhana* not far from the town of Mirzachul, where two roads interconnecting new villages of the Hungry Steppe form a Y. Some young people sat in a close circle on a *palas*, relaxing after work. They hung on the lips of the old *chaikhana*-man who was reciting "Hasan the Labourer," a popular poem by the folk singer Pulkan Shair.

The story of the poem is followed by songs, and the *chaikhana*-man's eyes shone with inspiration as he sang to the accompaniment of his own *saz*. His face seemed strangely familiar. Then I remembered having seen him several years earlier at the Farkhad power project.

In Uzbekistan the *chaikhana* has always been a centre of public activities. Perhaps that is why radio has so naturally entered the *chaikhana* and become as much a part of it as the samovars that come to a boil one after another. Possibly for the same reason "Red *Chaikhanas*" were set up all over the republic after the Revolution. In a *Red Chaikhana* meetings are held and lectures and talks given, there, too, artistes perform. The man who runs such a *chaikhana* is something like the manager of a little popular club.

But the *chaikhana*-man I saw in the Hungry Steppe was a very special one. He was a man who hated to live quietly. He liked the din of large-scale work, the clang of excavators. By permission of the co-operative which employed him, he moved his *chaikhana* from one to another of the republic's greatest building sites. Thus he spent some time on the building sites of the Lagan and Great Ferghana Canals, the Katta Kurgan Reservoir, and the Farkhad power project, and now was in the Hungry Steppe. For the Hungry Steppe is one of those centres in Uzbekistan where the people's creative work is in full swing, where thousands are eager to go to help transform the face of the land.

Irrigation in the Hungry Steppe has a history.

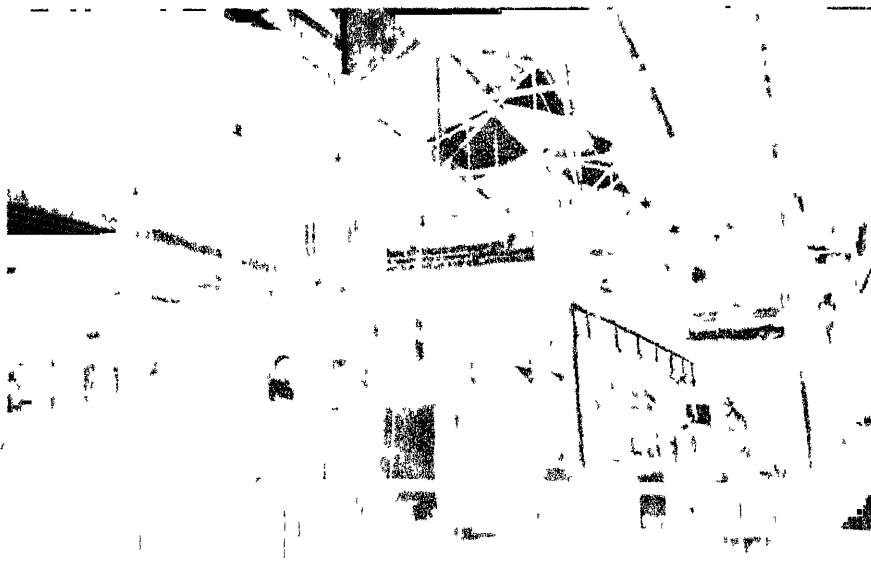
In 1872 construction was started on the first irrigation canal in the Hungry Steppe, under the direction of tsarist administrators. It took seven years to dig an *arik* eight miles long, then the enterprise was given up "for lack of funds." In May 1891 a grand divine service was held at the opening ceremony of a new, 17-mile canal, and water was



This picture was taken in the children's medical centre set up by the Sverdlov Collective Farm in Yangi Yul District, Tashkent Region



A scene from "Sorochinskaya Fair," a Ukrainian musical comedy,
produced by the Mukimi Uzbek State Theatre of Musical Drama and Comedy



Inside the Yangi Yul Sugar-Refinery

channelled into it Three days later the Syr Darya burst the dikes and destroyed the canal. The only memory of the event is a long range of mounds that can be seen from afar, they line what is left of the canal, barely discernible

At the beginning of this century John Hammond, an American millionaire, tried to secure from the tsarist government an irrigation concession in the Kara Kum Desert and the Hungry Steppe Luckily for the Uzbek people, the tsarist government refused him—not because it had the interests of the people of Central Asia at heart, but solely from the standpoint of its own interests However that may be, US imperialists did not penetrate into Central Asia, did not conquer it economically, as they have other countries that are now as a result in the throes of ruin, hardship, misery.

Before the First World War a third canal, also a small one, was completed, and the Mirzachul Oasis, the first in the Hungry Steppe, came at last into being

Real, large-scale, solicitous irrigation in the Hungry Steppe did not begin until the Soviet years Soon after the Revolution, in the spring of 1918, Lenin signed a decree "On the Appropriation of 50,000,000 Rubles for Irrigation Schemes in Turkestan and on Organization of the Work" The decree provided, in particular, for the irrigation of 1,350,000 acres of land in the Hungry Steppe. The difficulties born of the Civil War somewhat delayed the work Then the small canal in the Hungry Steppe was extended to many times its original length. Today it bears the name of Sergei Kirov, a prominent leader of the Communist Party. The Mirzachul Oasis expanded. Warehouses of the Hungry Steppe Station sprang up there, and the town of Mirzachul arose nearby It was in that oasis that preparations were started for a large-scale offensive against the Hungry Steppe

The Uzbekistan Research Station for Combating Salt Marshes was set up in Mirzachul Scientists there invented and employed numerous methods of combating ground water to keep it from washing acrid salts to the surface. S. Ishankhanov and F. Latipov, two Uzbek followers of Ivan Michurin, the great Russian biologist, as well as other scientific workers at the Mirzachul Base of the Fruit and Berry Institute, Academy of Sciences of the Uzbek S.S.R., began to evolve

frost- and salt-resistant varieties of fruit-trees that would bear apples, peaches, and apricots on the new land. Plant-breeders set about evolving in the fields of Mirzachul cotton-plant varieties adapted to the Hungry Steppe. Tashkent architects designed socialist towns to be built in the Hungry Steppe.

In the autumn of 1948, dozens of excavators started to dig the South Hungry Steppe Canal. And when water rushed into the Hungry Steppe from the Syr Darya, all Uzbekistan heard the voice of the Komsomol members of Andizhan, a region of famous cotton-growers. They called on the youth of Uzbekistan to move to the new-won land, to develop the Hungry Steppe and wipe that name off the map for ever. Tens of thousands of young collective farmers responded to the call with enthusiasm.

Hungry Steppe Station became the busiest in the republic as trains carrying young men and women arrived from all over Uzbekistan. The whole Soviet Union helped to outfit the new settlers. Russian workers sent them tractors from the Altai Tractor Works, timber from Irkutsk Region, waggon-loads of window-glass from the Volga region, coloured kerchiefs from Ivanovo. Riga supplied them with knitted wear and Leningrad with cigarettes of the best quality. Young workers at the Tashkent Shoe Factory manufactured for them 3,500 pairs of high-boots over and above the planned quota. As for the Komsomol members at the Tashkent Excavator Works, they made an excavator in their hours-off and dispatched it as a gift to the new settlers of the Hungry Steppe.

When the settlers arrived there was nothing at all in the steppe. They had to build it all up from the beginning. Even shade had to be provided for—in the settlements and field camps and along the roads—so that people might take a rest from work in a cool spot.

Development of the Hungry Steppe is under way. The Uzbek youth have already won scores of thousands of acres of land from the desert. As Sharaf Rashidov, an Uzbek writer, aptly expressed it, "Machines have spoken up in the voice of a happy age, and the Hungry Steppe has become a steppe of plenty." In the next few years the people of Uzbekistan and Kazakhstan will wrest from the Hungry Steppe further hundreds of thousands of acres of land. By 1958, not less than

1,500,000 acres of new irrigated land is to be brought under cultivation. The Mirzachul development, however, is only part of another great construction effort whose very name, so cherished in Uzbekistan, has been thrilling men's hearts for some years now.

19 FARKHAD'S ROCKS

That project was started at the place where the Syr Darya—now brown, now muddy-yellow or ash-grey—having broken through the mountains on its way out of Ferghana Valley, rushes into the Hungry Steppe, at an ancient cross-roads where camel-bells jingled and moaned for hundreds of years. Once three caravan routes crossed there. One of them led north, to the Tashkent Oasis and on along narrow pathways to all parts of a boundless plain. The other stretched eastward to the rich cities of Ferghana Valley. The third ran west, to the valley of the blessed Zarafshan, from where further routes branched off towards ancient Merv, Shahrīsabz the "Fascinating," and Khorezm, the "Land of Light."

They say that the wandering singers who stopped at the cross-roads to compose legends and songs for passing caravans did not touch the strings of their *dutar*s, for the air above the steppe rang with camel-bells like a giant *dutar*. It was in that steppe, at the foot of bare crags on the bank of the Syr Darya, ruffled and foaming as it rushed over rapids, that the most beautiful legend of the Uzbek people was composed, the Legend of Farkhad the Stonemason who tried to irrigate the Hungry Steppe with Syr Darya water to win the heart of Shirin, his beloved.

Caravans spread the legend all over the East. In far-away Herat, Alisher Navoi, the greatest of the Uzbek poets, laid it at the basis of his famous poem "Farkhad and Shirin." Transcribed by some of the best calligraphers as well as by half-literate copyists, his poem has reached us in a multitude of versions. For nearly five centuries it has wandered from oasis to oasis. The image of Farkhad, the stern Uzbek builder, rose before listeners grouped round a reciter of the poem now in Khorezm, in the shade of broad-leaved roadside elms, now in a

little Samarkand court-yard, by the light of charcoals smouldering in the hearth. But it is in its birthplace today that Farkhad's image appears in its full stature, in all its stirring force. The builders of the Farkhad power project sing in "The Step of Ages," a musical drama by Uigun, an Uzbek playwright. "We are Farkhads who have come to the Shirins waiting here." Farkhad symbolizes the Uzbek people, a people of builders, and Shirin the people's happiness.

Soviet artists now represent Farkhad not only in the garment of a legendary hero but in the simple clothes of an excavator-operator, a driller, or an electric welder. Now Farkhad's powerful form, wrapped in a tarpaulin coat with a hood under which goggles glisten, is lighted up at night by the thin, silvery runlet of molten steel that flows with a low sound out of an open-hearth furnace and changes instantly into a fiery stream shooting forth myriad sparks, tinging pink the steppe and the tree-tops in the town, and even Farkhad's Rocks in the distance, while the buildings of the works turn darker still. The buildings are those of the first Uzbek iron and steel works, erected on the edge of the Hungry Steppe.

When the German fascist hordes thrust deep into the Ukraine and seized the iron and steel industry of the South, the Dnieper Hydro-Electric Station thundered with explosions that echoed painfully in the heart of every Soviet man. It was then that the Communist Party decided to build in Uzbekistan an electric station of the same capacity and the first iron and steel works, and simultaneously to transform Farkhad's dream into reality by watering the Hungry Steppe.

The decree to start the Farkhad construction job was passed on November 18, 1942, on the eve of the Soviet Army's glorious offensive at Stalingrad. A great battle began at the walls of Stalingrad, at the same time a battle with Nature was launched at Farkhad's Rocks, which shows how deeply confident of victory the Soviet people were in the crucial days of the country's war effort.

Sixty thousand collective farmers made up the first contingent in the Farkhad campaign. They were succeeded by further tens of thousands as in a nation-wide relay race. There is hardly any Uzbek collective farmer who has not been on the Farkhad building site at least once.

Formerly their building skill consisted in that they knew how to shape clay into *gululas*, or ellipsoids, which they used, after covering them with *loi*, a solution of the same clay mixed with minced straw, to build the walls of their clay dwellings. The construction of the iron and steel works started with only twenty-nine skilled building workers. Thousands of them have been trained there since.

They were taught by Ukrainian electric welders and concreters, Volga fitters and excavator-operators, Ural assemblymen and iron and steel workers. Hafiz Ganiyev, once a baker, became an apprentice of the celebrated Alapayevsk steel workers; he switched from the oven in which he used to bake flat-cakes to a furnace in which he now smelts high-grade steel. He has won recognition in Uzbekistan as a high-speed steel-founder. Gulam Arzikulov, a collective farmer, was trained by Russian workers, and achieved fame as the best driller at the Farkhad power project. Men like these, who have learnt new trades, are numberless in Begovat.

Climb to the top of Farkhad's Rocks, and a breath-taking view will open before you, with the bluish-gold of the Central Asian sky reflected in the river and throwing its tint on the structures that form a colossal semi-circle, on the lorries, derrick-cranes, motor carriers, conveyers, locomotives.

From Farkhad's Rocks you will see the new town of Begovat sprawling amid railways and gravel roads and slightly hazy with the vapours of numerous factories and mills. It is not yet quite free of makeshift building workers' houses, beyond which show new white buildings crowned by distinctive Uzbek cupolas. Blocks of such new buildings have sprung up in the town, they are scattered over a vast area. The tender poplars among them impart to the landscape the freshness of a water-colour painting.

There is a huge ring of young poplar, karagach and maple groves also round Begovat. Trees are of special importance there, for Begovat has risen in a valley named in Uzbekistan the "Valley of Eternal Winds." Storm winds are not uncommon there, either. The Farkhad builders used to say jokingly, "This isn't a wind, it's the breath of sixty thousand building workers!" To protect themselves against the

winds, the inhabitants of Begovat have encircled their town with new groves and orchards

From the height of Farkhad's Rocks you will see the tamed Syr Darya too. The mighty river describes a semi-circle as it sweeps out into the expanse of the Hungry Steppe. It has the shape of an enormous bow whose string is a nine-mile derivation canal. Perhaps that is why narrators of folk tales admiringly call Begovat "Farkhad's Bow." Dozens of new canals will cross the Hungry Steppe like arrows shot from that giant bow. And wherever those magic arrows fly, further hundreds of thousands of cotton plantations will appear in the desert of yesterday, there will be trees and dwellings, and the voices of thousands of people will be heard.

In the distance you will see the Farkhad Hydro-Electric Station, which ranks third in the Soviet Union as to capacity. The Farkhad high-tension lines are named "Shirin's Plaits" even in formal reports by local engineers.

From Farkhad's Rocks you will also see the buildings of the first Uzbek iron and steel works, throwing up snow-white clouds of steam now and again. Its open-hearth shop is putting out steel, and its rolling-mill, too, is in operation. The commissioning of the works was a festive occasion throughout the republic.

Like all Soviet workers, the iron and steel workers of Begovat know well that their production effort contributes to the maintenance of peace.

That is what you think of when viewing the Uzbek Iron and Steel Works or standing near Farkhad Dam where masses of water, white with foam, rush furiously over the raised lock gates, and a rainbow, arched across the river, glows in the sunlit clouds of fine spray enwrapping the dam. All that—the ancient folk legend about Farkhad and Shirin, the magnificent dam, the power station, the new town, the factory chimneys thrust skywards, and the rainbow above the river—all that merges to make up a splendid whole, so much so that you cannot tell where Nature's work ends and man's begins, or where man's work ends and legend begins.

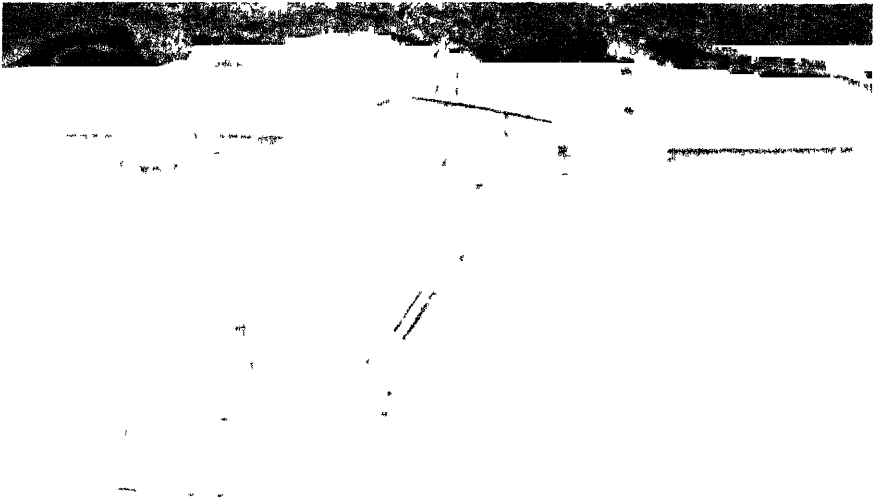


FERGHANA





Finished fabrics being sorted at the Tashkent Textile Mill



Open-cut coal mining at Angren



Land-reclamation work in Yangi Yul District



An Urozhal two-way wireless set in the dispatcher's room of a machine and tractor station



1. GATEWAY TO FERGHANA

The bitter scent of wormwood and grasses comes from the Hungry Steppe to Farkhad's Rocks to mix with the smells of concrete, black oil, lime, and smoke. But in spring a wind blowing from Ferghana Valley through the gorge may suddenly bring the fragrance of blossoming orchards. The muddy Syr Darya floats to the spillway of Farkhad Dam the white and pink petals of almonds and apricots, and they spin in the whirlpools. They are heralds from Ferghana Valley, Uzbekistan's most plentiful, which lies in a ring of snow-capped peaks.

Your train is going east. From the window you see Farkhad's Rocks looming dark in the distance, and factory chimneys Beyond and above them, on your right and left, a giant mass of mountain-ranges grows higher and wider as it draws nearer. Often a transparent mist lingers at their summits, and the far-away crags seem to be suspended in the air. But neither the ranges nor the wind-swept gorge, along which your train rolls for several hours, are Uzbek soil. To get by rail from Tashkent to Ferghana Valley, you have to cross Tajikistan. The route skirts the rocky Mongol Tau Mountains, sun-baked and cheerless, with the Syr Darya winding below. It passes the city of Leninabad, lying at the foot of the Turkestan Range, and re-enters Uzbek territory. The first Uzbek town you arrive in is Kokand.

As you approach Kokand, the first thing you notice are mounds of cotton under railway storage-sheds or out in the open, covered with tarpaulin. If it is autumn, in the streets of Kokand, just as in other Ferghana towns, you will see lorries carrying cotton to ginneries. But if you came to Kokand in spring, cotton would also be moving along before your eyes—on thousands of *tubeteikas*. For the white patterns on the black Ferghana *tubeteika* are very much like a cotton-boll.

Before the Revolution, Kokand was the principal cotton market in Turkestan. In its roofed bazaar, where dusty beams of sunlight reached the half-gloom of the stalls through rush mats, Ferghanan, Bukharan, and Khivan turbans floated above the throngs like foam, and the straw hats or white tropical helmets worn by the factors of trading companies of Lodz, Moscow, or Kokand appeared with growing frequency.

In those years more and more men of a very special sort of occupation cropped up in Kokand. They were those of the Uzbeks of whom Gulkhani of Kokand, a famous Uzbek 19th century poet, said "He would give five shares to the man who was entitled to twenty, and pocket fifteen." Russian cotton-dealers—even big wholesalers—would salaam them on the threshold of their homes and lead them to the drawing-room to offer them a cup of tea. A few days later the Uzbek caller would set out for Ferghana Valley on horseback, his saddlebags bulging with money.

Every Uzbek buyer of that sort had his favourite villages. There he knew who was in debt and to whom, who needed money for a wedding, a funeral feast, or a circumcision, whose sheepfold was in bad shape, and so on. In a word, he was well posted in everybody's affairs. He would turn up near the mud-hut of a poor *dehkan* just when the man wanted help badly, and would advance him some money on his future cotton crop. Need I say that under the circumstances the *dehkan's* cotton was set at a trifling price?

The *dehkan* would pile up debts till he was ruined and forced to sell his patch of land to the local *bai*. Thousands of *dehkans* thus would become *chairkers* and work in the cotton-field of a *bai* for a quarter of the crop, or simple *mardekera* (farm labourers). Here is a saying about the *mardekera*, which sounds like a line from a plaintive song known

all over Central Asia. "O for some millet and salt to cook some gruel, but, alas, no butter to eat it with!"

A stroll about Kokand will show you vividly that those times have long since gone

Although Kokand is smaller than Tashkent and cannot keep pace with the impetuous growth of the capital, its changes have been no less striking. Shabby bazaar stalls, flour-shops and merchants' houses are no longer characteristics of the town. Its typical feature nowadays is a large cluster of modern works and mills built in the majestic style of the Soviet Union's new factories—well-lighted and spacious, equipped with first-class automatic lathes and other machines, and surrounded with gardens. They are factories the entire appearance of which shows that they have been erected for men whose dignity is valued highly.

In any of the more important streets of Kokand your eye is sure to fall on a big house under construction. A modern, attractive Kokand, a town of workers, is gradually ousting old Kokand of the clay houses and merchants. Walking through the town, you cannot but be impressed by the cosy little houses in the textile workers' district, by the fine cottages of grey stone in the district where workers of the Superphosphate Plant live, and by the new two-storey houses for oil-workers in Karl Marx Street, built in keeping with Uzbek folk architecture—with shady, niche-like balconies and plaster-work. Those dwelling-houses, too, have plainly been erected for men whose dignity is valued highly.

Mukimi, a poet of Kokand whose father was a poor baker and who said that all his life he had "felt a stranger in his homeland," because life had been so hard, is now his native town's pride. You may see a volume of his poetry in almost any Kokand home, and next to it a volume of fables and satiric poetry by Gulkhani, another famous man of Kokand, a poet who lived half a century earlier and earned a living as a bathhouse attendant. According to Gulkhani's contemporaries he was so poor that "in all his life he had never broken a whole flat-cake or sat at a well-loaded *dastarkhan* table."

Before the Revolution the poetry of these courageous singers of the Uzbek people was circulated in rare hand-written copies. The Great October Socialist Revolution made the work of the Uzbek poets available to all the peoples of the Soviet Union. It has been translated

into Russian, Ukrainian, Georgian, Tajik, and other languages, and published in enormous editions in the Uzbek original

Uzbeks now have home libraries containing classics of both Uzbek and world literature. Pushkin and Goethe, translated by Aibek; Dante, Shakespeare and Rustaveli, translated by Gafur Gulam, Lermontov, translated by Uigun (who has supplied his countrymen also with an Uzbek version of *Kirk Kiz*, the Kara-Kalpak epic); Homer, Euripides, and Shevchenko, translated by Mirtemir, Leo Tolstoy (*War and Peace*), translated by Abdullah Kahhar, a distinguished modern Uzbek author. Private libraries often include a collection of short stories by Abdullah Kahhar himself and *The Lights of Koshchinar*, a novel in which he gives a broad picture of life in a village of Ferghana Valley during the early period of collectivization.

In an Uzbek home you are sure to see works by Lenin and Stalin, the greatest geniuses of mankind. The writings of Lenin and Stalin are coming out in Uzbek.

Any cultural establishment in Kokand, such as its schools, theatres or libraries, and any of its socialist factories clearly shows how the brilliant prognostications made by Lenin and Stalin are materializing. But to see socialism as it is today, in all its sweeping variety of human endeavour and achievement, it is not enough to stroll about Kokand, which is now just one of the five large modern towns of Ferghana Valley. You should also tour the whole of Ferghana, its other towns, its orchards, fields, and villages.

2. WOMEN OF MARGELAN

Rows of mulberry-trees border cotton plantations near Kokand as well, but there they alternate with Lombardy poplars. Having left the Sokh Oasis and entered, through an endless succession of orchards and fields, the ancient oasis which owes its existence to the Margelan Sai, a branch of the Shahimardan River, you see that poplars are confined more and more to the streets of *kishlaks*, while mulberry-trees become increasingly dominant in the fields.

Normally the mulberry-tree has spreading boughs. But in Ferghana Valley you see few such trees, if any, and in the Margelan Oasis you

find none at all. Here the mulberry-tree has a short, straight trunk and a burl-like top bristling with sprigs. Every summer the collective farmers cut off the sprigs to feed silkworms. But that cannot stop the life of the tree, for the vital power contained in its roots and trunk pushes forth a fresh bristle of sprigs and covers them with leaves, which man feeds again to silkworms.

Before the Revolution cocoons were exported from Russia to Italy and France to be unwound. Now the reeling is done at home. Uzbekistan accounts for more than half the silk produced in the U.S.S.R. Reeling mills have been built in many other cities of the republic and there is a silk mill in Samarkand, but it is in Margelan, an ancient silk-producing centre, that the Soviet Union's largest silk mill has been erected.

The life of the women who work at the Margelan mill is striking evidence of the tremendous progress made by the Uzbek people under the Soviet system.

Most of them began hatching silkworms right from the cradle. Who in Margelan does not remember that occupation of Fergana women? Small bags filled with silkworm eggs would be put in one's bosom, warmed by the human body, worms would hatch by the twelfth day or thereabouts. If warmed in one's armpit or in a cradle, the worms would hatch as early as the eighth day. It will be easy to imagine how dull spring-time was for little girls, they could not play with friends, but had to hatch worms.

Nearly all girls were sold into marriage between the ages of ten and thirteen. Those of the adolescent wives who had no reeling-frame, not even a poor one, were compelled to reel silk for the local *bai*, who paid them next to nothing for their work. For many years they had to stand over a stinking reeling basin from morning to night, feeling with a stick for the loose ends of filament and winding them on a slow wheel.

The *chachvan*, that black horsehair veil through which the world seemed wrapped in a grey haze, gave the Uzbek woman no chance to enjoy the bright colours of her native landscapes. That is why people used to say in Uzbekistan, "Under the *paranja* even the sun is black."

The first women who threw off their *paranjas* were stoned, hounded, killed, buried alive by *bais* and reactionary mullahs. But nothing could

stop the *hujum*—the offensive launched by the women “We don’t want a girl of thirteen to nurse, besides a rag doll, a baby of her own!” said an Uzbek woman in 1925, speaking at a women’s rally “We don’t want women to be forced into marriage at the age of ten and carried to the grave when they’re twenty-five!”

It was in Margelan that a woman named Nurkhon was atrociously murdered in the days of the *hujum* for having dared to throw off her *paranja* and become an actress. All Uzbekistan soon learnt of her tragic fate. *Nurkhon*, a play by the well-known Uzbek dramatist Kamil Yashen, was presented by theatres in the republic for several years and greatly contributed to the struggle for emancipating the Uzbek women from slavery and seclusion. That struggle is also the subject of *Gulsara*, a musical drama created by Kamil Yashen in collaboration with the composer R. Glier. One of the most popular Uzbek stage productions, it is running at the State Opera House in Tashkent to this day. Yashen and a group of actors have been awarded a Stalin Prize for it.

Gulsara’s road from the *ichkari* (women’s part of the house) to the factory was travelled by most women of Margelan. At the time of collectivization, when the struggle against backwardness and the savagery of old customs acquired particular vehemence and when the outskirts of a village ceased to be the world’s end for an Uzbek woman, the rousing whistle of the silk-reeling mill in Margelan drew hundreds of women from the surrounding villages and from the town’s inner court-yards. They came one by one, stealing away from their husbands and sometimes carrying infants.

At first those women discovered at every turn something that surprised them. But the most up-to-date factory equipment—steaming and reeling apparatus, calibrating and dusting drums—impressed them hardly at all. They had heard so much at home about the miracles of engineering that they took them as eternal symbols of the new world to which they had come to stay.

What did amaze them was the fact that they had the right to call their husbands’ relatives by their names, to drive with them in the same *araba*, to occupy seats of honour at meetings, even on the speakers’ platform. Those who married in the new world were delighted because they did not have to hide from their husbands’ relatives till their first baby

was born and might, after the birth of their firstling, speak aloud even such "terrible" words as *key*, *lock*, *thumble*, or *patty*, with complete safety for the baby's health and life. They would laugh at a new friend who, having taken up work at the mill, glanced round fearfully when the first Tuesday came, fearing that *Bibi Seshamba* (Mrs Tuesday), the spinners' patroness, might prick her all over with the spindle for working on a forbidden day. In short, women began to shake off the numerous prejudices and prohibitions that had restrained all their movements.

They gradually mastered factory skills and learnt to read and write. A new, socialist world revealed itself to them—a wonderful world with things like maternity leave, children's hospitals and baby-food centres, nurseries, kindergartens and playgrounds, public dining-halls and clubs, grants-in-aid to mothers of large families, holidays at a health resort. The majestic scene of the world, of its history and struggle for communism, shone down also on their work at the looms. Slaves of the hand-mill stone shortly before, they now had equal rights with all working people of the Soviet land. Work ceased to be a burden. It became one of the joys of their life.

Following the example of their teachers, famed weavers of the Krasnaya Roza Mill in Moscow, Uzbek weavers began operating four or five many-spindled silk-looms instead of two. They enthusiastically set about learning new trades as well, for, besides the graine, silk-reeling and silk-spinning mills, a twisting factory, a hemp-spinning mill and a dyeing factory were built in Margelan. A huge silk mill came into being in the town.

In speaking of the great changes brought about in the destinies of an entire generation of Uzbek women workers, Sharapat Kadirova, a celebrated weaver, said, on the occasion of the opening of that mill, something which made later the round of Fergana: "A worm cannot be held kin to the sun just because a sun-beam darted over it too." She meant those lagging workers still met with who drift aimlessly along, without seeking earnestly new ways in life, without fighting and winning. As to Sharapat Kadirova herself, already in April 1949, operating eight many-spindled looms, she was fulfilling the production quota planned for 1953.

3. A NEW VILLAGE

The sunny streets of the new town at the silk mill lie quite a distance from Margelan. They are connected with the town by a highway that is alive with lorries and camel caravans, buses, bicycles, and *arabas*. Near the highway stand the white cottages of the Frunze Collective Farm, which is known throughout Ferghana Valley. Before the Revolution this place was called Tuya Gum, or Lost Camel. It was easy enough even for a man, to say nothing of a camel, to lose his way in the crooked lanes and blind alleys of the village. Whenever a girl was born there, the family was disappointed. In those days the Uzbeks used to say, "I wish a stone had been born instead, then I could have used it to build a wall." Today the whole village is proud of its women working as team-leaders in silk-breeding brigades. They introduce new techniques and earn so well by rearing silkworms that their collective farm became a millionaire long ago and so was able to get enough "stones"—building materials, that is—to erect new houses for every villager.

Uzbekistan now has many *kishlaks* fully reconstructed on a socialist plan. In almost all of them you see the new way in which the building and decorative methods of the Uzbek people are embodied in socialist rural architecture. The Frunze Collective Farm village excellently illustrates this fusion of Soviet culture with the best traditions of what is original and typical of the Uzbek people.

To begin with, neither a camel nor a three-year-old baby could get lost in the streets of the village, because now they are straight and wide and well-lighted with electricity. A beautiful new *chaikhana*, surrounded with a broad verandah and overlooking a cool canal, stands in the centre of the *kishlak*, next to a department store with plate-glass show-windows. The *chaikhana* has been skilfully ornamented by folk artists; pure blue, red, green, yellow, brown, and black contrast with the white background of the wall, forming an exquisite plant pattern, a favourite in Uzbekistan. Folk artists also decorated the two-storey collective-farm clubhouse, with its fine plaster-work plafonds and its cornices covered with tracery of various colours. The stone building of a seven-year school rises not far from the club, and a little farther



Building the South Hungry Steppe Canal



The head structure of the South Hungry Steppe Canal



Mulberry-trees

off stands the kindergarten and nursery house. The collective farm also has a hotel of five comfortable rooms and a reading-hall.

Many bridges span the *ariks* in the village. A public park spreads close by the main street over an area of thirty-two acres. Inside the park is a pavilion, also decorated by skilful folk artists. It has an iron roof supported by four pillars of carved wood, and seats two hundred. Here meetings are held and concerts given by visiting artistes in summer, now and then a member of the Society for the Dissemination of Political and Scientific Knowledge arrives from the city to deliver a lecture, say, on the structure of the Milky Way.

Of course, the collective farm has an electric station of its own. Electricity is used not only in the houses and streets but in the garage, the stables, barns, and workshops. In the collective-farm cocoonery, electric incubators tended by women in white smocks maintain the even temperature required for the hatching of viable worms.

The silkworms reared there are "Soviet" mulberry-feeding worms, a new species evolved by Uzbek breeders. They yield far more silk than the "Baghdad" species, which was wide-spread in the republic until recently. The Central Asian Sericulture Research Institute has raised new varieties of the mulberry-tree too. The dark top of a "Pobeda," one of those tree varieties, shows behind many a clay wall at the Frunze Collective Farm village. The "Pobeda" is distinguished by a high leaf yield.

Asphalted pavements stretch along the village streets. All the collective-farm homes, about two hundred in number, are new-built. Cleanliness, and coolness no matter how hot the day, are typical of those cottages with decorated front entrances and large windows that look into the street. Step into any house and walk through the passage right on to the little court-yard, without entering the rooms. There, too, elements of what is original and distinctively Uzbek have found expression in the new way of life.

Several apricot- and peach-trees fringe the court-yard. Their thin, lime-coated trunks, one or two flower-beds, and clean-swept paths give the court-yard a cosy air. Under the trees stands a wooden *supa*. This is a large, low couch, almost square, covered with embroidered *palases* or rugs. In summer you sleep on the *supa* or just relax, or

receive friends, who sit down on it cross-legged after taking off their boots

Chased *kungans*—narrow-necked metal jugs—glisten near a small reservoir through which an *arık* flows. A blackened hearth is to be seen in a corner of the court-yard. The house has a spacious open verandah, called an *avān*. Usually a colourful decorative pattern in relief is painted on the ceiling of the *avān*, the roof rests on turned pillars of plane wood.

Electric wires stretch from the street to the court-yard. After night-fall the leaves of the trees seem particularly dense around the electric lamp swinging above the *supa*, in the middle of the court-yard. The electric iron and saucepan are now in common use.

Let us enter the house and walk from the passage into the *mehman-khana*, which is the winter parlour. Formerly its door, like the wicket, was low, so that anyone who entered had to bow slightly. The Uzbeks hardly used any furniture, and as there was nothing bulky to be carried in or out, no high door was necessary. In the new houses, however, the doors are made high enough for any furniture to be brought in.

The windows of *dehkan* houses used to be low too, light fell only on the floor and the *supa*, round which family life centred. Now that tables and chairs, a clothes rack, nickel-plated bedsteads, and a book-shelf have been added to the *supa*, mats and trunks in the rooms, high windows are built, giving the rooms more light and sunshine.

In the *mehmankhana* you will see the customary wall niches, with plaster-work gratings, containing jugs and other vessels, books, *piyalas*, caskets, a gramophone, a couple of Uzbek musical instruments, a sewing machine, a *chilim* (Central Asian hookah made of a bottle gourd), and a new, multi-valve wireless receiver.

Thousands of details show how freely people in Uzbekistan's villages put a new meaning into popular tradition. Not so long ago the Uzbek home consisted of two halves, the *tashkari*, or the men's half, and the *ichkari*, the women's, which no man outside of the family might enter. In the modern collective-farm home, the *ichkari* has come to be just the bedroom and nursery (with sometimes an Uzbek wooden bedstead painted in bright colours, giving the nursery a touch all its own).

As to the *mehmankhana*, it is now a parlour in which the wife receives family friends with her husband as his equal

It would seem at first sight that everything has been done on the Frunze Collective Farm to make life comfortable, beautiful and cultured. But if you said that to Abdullah Rahimov, the collective farm's chairman and a person widely known in Ferghana Valley, he would tell you with a smile that a lot more has to be done. First of all, nurseries, recreation-rooms, and first-aid stations have not been set up in *all* the brigade field camps. In the second place, you can never say "everything" has been done, because the new, socialist way of life gives rise every day to new requirements. The collective farmers now plan to build a lying-in hospital, a public-service centre, a laundry, a clothes and footwear repair-shop, and a tailoring-shop. Moreover, they suggest that a car repair-shop, a gym-hall, a good library with a reading-room, and a theatre be also built. Nor is the time far when gas will be piped from Leninsk to Margelan, which means that the collective farm must provide beforehand for a small gas sub-station. Then more and more new things will come, for the prospects offered by communism to the peoples and to every individual are unlimited.

4 A "LIVING BEAUTY"

There is nothing Ferghanans like more than telling a stranger what a wonderful place their valley is. Especially when they get together far from home—say, at a conference of cotton-growers in Tashkent, or a session of the U.S.S.R. Supreme Soviet in Moscow, and they happen to meet a Russian, a man from Moscow or Gorky, at the dinner table. They will give him an enthusiastic description of Ferghana Valley. And it will turn out that every town or village there is famous for something.

One of the Ferghanans may take off his black *tubeteika* to show it to the Russian, and that may steer the talk to Chust, a city renowned for its *tubeteika*-makers. Another Ferghanan may mention Rishtan, a big *kishlak* not far from Kokand, and invite his new acquaintance to his hotel room to show off an ornamented glazed dish or jug, a creation of the famed potters of Rishtan. If men from Kuva and Namangan

happen to be present, they will probably start arguing about where the pomegranates are larger, sweeter, and more fragrant

But if asked to name the loveliest town in Ferghana Valley, they will all agree on Ferghana, and tell you that it is unexcelled not only in their native valley but in all Uzbekistan. No other Central Asian town has such luxuriant trees, or such a variety of them. From four to eight, and in some places as many as twelve, rows of mighty trees shade the streets, trees so matched by skilful gardeners that in spring, summer, and autumn their foliage lights up each street, as it were, with a range of colours of its own, with its own combination of light and shade. Ferghana has many new beautiful houses. Here and there the slender white colonnades of new buildings can be seen between trees, against the blue and yellow background of the walls. Entire workers' towns have sprung up around the mills and factories. Clay walls, too, can be seen in the streets, in spring, blazing-red poppies blossom freely in the white clay on top of the walls. Rising high above the fences and house-tops and refreshing the town air with the cool breath of snowy peaks, is the majestic Alai Range which seems so near, yet is so distant.

Pre-revolutionary Russian travellers were fond of calling Ferghana "The Sleeping Beauty."

Step into the streets of Ferghana early in the morning, and stop in front of the finest little house you see. You will hear the deep hoot of factory whistles calling from the town's outskirts. Then the door of the house will swing open and a Russian or Uzbek woman wearing a white kerchief will come out; she will walk briskly down the tree-lined street and mix with the lively crowd of men and women—workers of Ferghana's new factories—who are hurrying to their looms and lathes.

A while later a boy will hop out of the same door, still chewing a sandwich, and skip off to overtake his comrades who just went by on their way to school, his satchel bobbing on his back. Then the street will fill with office workers and students of vocational schools and institutes. And lastly, at that still early hour when the dainty clouds have melted away, leaving the sky clear, fathomless, and sunlit, the door of the little house opens once again, and an old woman with a basket saunters off towards the market.

"Sleeping" Ferghana? No, it has become a "Living Beauty" Each of its new factories is the fruit of the creative efforts of thousands of people Go to the Silk-Reeling Mill for one, and enter a shop there

Thousands of threads flit before your eyes, against the background of reeling machines, and light cocoons jig in vats filled with water With their nimble fingers women workers find the filaments of the cocoons and carry them to special catchers This is a modern shop (the silk industry of the world has no equipment more fully mechanized than here) and yet it is one of the most backward in Ferghana, because manual labour is still used

But before long the shop will have changed beyond recognition The staff of the Uzbek Research Institute of the Silk Industry has designed a remarkable reeling machine Besides, it has designed a machine for centralized steaming of cocoons and catching the filaments Production of both machines is under way in Tashkent Soon manual labour will be excluded for good from the silk-reeling industry, just as it has been excluded elsewhere Mechanization, automatization, chemicalization, and electrification of production processes have become a law in Uzbekistan's socialist enterprises

Take the ginneries in Ferghana Valley Technically they have far outstripped not only India's but even America's Raw cotton is pneumatically conveyed to the factory through pipes from the storehouses and from bales in the yard Leaf-removers and clearers—special appliances invented in Uzbekistan—clean the cotton New first-rate brushless fibre-stripping machines, designed by Tashkent engineers, separate fibre by means of condensed air Powerful hydraulic presses, mechanical screw conveyers, and other machines show that Soviet men have done their best to make labour genuinely human, healthy and highly productive.

Hard physical work is now a thing of the past here Manual labour, too, is being done away with step by step At Ferghana's textile and oil-and-fat mills all production processes are done mechanically. In the brick-yard, the moulders' hard work has been replaced by mechanical moulding In the garment factory, the machines are electrically driven and electric shears are used

There is a giant mill in Ferghana Region to which school children from the town of Ferghana often make excursions That mill particu-

larly illustrates the scope of engineering and the methods of mechanization in socialist industry. It is a cement plant—in other words, part of an industry in which, not so long ago, carriers made up the bulk of the workers, in the limestone quarries, in the yard of the plant, and in the shops they would trudge along in single file, bent under heavy sacks, they would push, along narrow planks, wheelbarrows loaded with limestone or cement.

The plant I am speaking about is located in Kuvasai, a new town born during the five-year plan periods. You can gain an especially fine view of its neat white blocks of flats and its cottages, with their red and green roofs showing through the leaves of the tall, slender poplars, from the slopes of the hills that rise steeply on the town's outskirts.

Powerful excavators are used in the quarries in the hills close by. As they turn round with a seemingly clumsy but actually rhythmical movement, they scoop up enormous quantities of limestone, the raw material of the cement industry. It is those excavators that start the fully mechanized production process at the Kuvasai Cement Plant.

Tip-up trucks and conveyer belts move the raw material to the mechanized lime-yard and then to the cement plant, where it is blown into a rotary kiln 195 ft high, a miracle of modern engineering. Workers simply stand at the control instruments, listening to a low, rhythmical sound not unlike that of the surf. Ready-made cement is cooled mechanically and loaded, also mechanically, into trucks, to be converted far away—in Ferghana, Samarkand, or Tashkent—into new electric stations, factories, Palaces of Culture, school-houses.

Kuvasai is the capital of the republic's building-materials industry. Besides the lime-yard and cement plant, it has a brick-yard and a slate plant. The Kuvasai Electric Station is the largest in Ferghana Valley. Then there is a factory well known to collective farmers and pilots because it produces chemicals for combating orchard and field pests. It is obvious why the factory is renowned among collective farmers, as for the pilots, well, it is they who have to do the combating.

When Uzbek collective farmers catch sight of little cobwebs on cotton-plant sprouts, indicating the presence of red spiders, those deadly enemies of cotton (so tiny you cannot make them out unless you use a magnifier), or see, in one of Ferghana's famous apricot orchards, the

scale insects so dreaded by fruit-growers, they telephone to the district capital. And they have long regarded it as a matter of course for an aeroplane to fly over in an hour or two. With the aid of Kuvasai chemicals, pilots save collective-farm crops from red spiders, plant-lice and numerous other pests. Collective farmers posted in the affected fields signal with flags, and the aeroplane hedge-hops back and forth, a transparent cloud of chemicals fanning out in its wake. Owing to the whirling method elaborated in Uzbekistan, the spray settles both on top of the leaves and on their lower side where caterpillars nest.

The life of Ferghana's working people has undergone colossal changes indeed. Where recently a *dehkan*, before leaving for the city in search of a livelihood, stood glancing in despair over his field ravaged by red spiders, today an aeroplane of the agricultural air-fleet is spraying the collective-farm fields, and where only yesterday a loader (perhaps the same ruined *dehkan*) was breaking his back under heavy bales of cotton, an ingenious machine is today working under the supervision of a skilled Uzbek innovator.

5 IN THE ALAI MOUNTAINS

Like the other towns in the valley, Ferghana is surrounded with vineyards and orchards. Beyond these lies an immense ring of villages and cotton plantations irrigated by the rivers Shahimardan and Isfairam. The green foliage of a broad shelter belt planted not long ago is to be seen near the highway skirting the Shahimardan. As you drive up the highway, the snow-capped peaks of the Alai Range drop out of sight behind the foothills, only to reappear with still greater splendour on your entering the large *kushlak* of Vuadil. A new health centre for textile workers has been opened in Chumon, a little farther on. Vuadil itself boasts one of the best children's health centres in Uzbekistan. From Vuadil the highway goes to Shahimardan, a mountain resort famed throughout Central Asia.

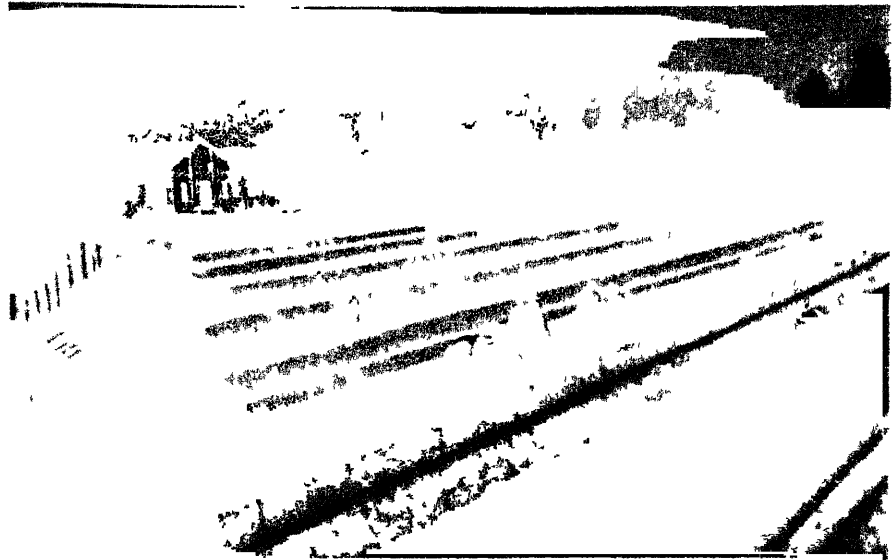
At Vuadil the cotton plantations end, and so does Uzbek territory. After that come the mountains of Kirghizia. And yet Shahimardan is Uzbek soil, although it lies fifteen miles beyond the border of Uzbekistan. Nowhere else in the world are state boundaries delineated like

that Nowhere but in the Soviet Union is it possible for a large village, with its orchards and fields, to be situated within the territory of one republic yet to be considered part of the neighbouring republic and designated as such on the map. Socialism precludes contradictions between neighbouring republics. That is why Shahimardan, which has long been inhabited by Uzbeks, was included in Uzbek territory when the national delimitation of Central Asia was carried out. Thus Shahimardan vividly shows on the geographical map what the Soviet national policy is.

Formerly Shahimardan ("King of Men") was renowned for Caliph Ali's tomb, one of the innumerable tombs of that nephew of Mohammed's to be found in the East, a nephew who contrived to die quite a few times, if we are to trust tombs. By now Shahimardan's fame has shifted from the tomb to a new health centre built not far from where a man was atrociously assassinated twenty-odd years ago. The man was Hamza, "King of Poets," a fiery herald of the Revolution, who dreamed of dotting his country with schools and whose memory has become sacred in Uzbekistan.

Hamza Hakimzadeh Niyazi was a poet, prose-writer, composer, and playwright. In 1911 he opened in Kokand a free school for the children of poor Uzbeks. The reactionary clergy charged him with godlessness and free-thinking, shut down the school, and banished him from Kokand. Hamza roamed Turkey, Arabia, Afghanistan, and India in quest of justice, but everywhere he saw the same terrible suffering of millions of people who were cooped up in clay hovels or tumble-down rush huts although they worked to build splendid palaces, and who wore rags although they manufactured the finest silks and satins.

Back in Kokand, Hamza reopened his School for Orphans, and again it was closed. Then he opened a school in Margelan, but that one was shut down too. He was a man who might well be called "King of Men." Having given up his educational illusions and realized that the Uzbek working people and the Russian workers had to follow the same path—that of fighting Russian tsarism and the local feudal lords and *bais*—he joined the Russian Bolsheviks and began to set up Soviets of Working Moslems in preparation for the Great October Socialist Revolution. When the Revolution broke out, he welcomed it with passionate poetry.



Raising lemon-trees in sheltered ditches on the Stalin Collective Farm in the Hungry Steppe



A view of the printing department at the Margelan Silk Mill



A section of Uzbekistan's irrigation network



A pasture of the Ak Kopchigai State Farm

After the Revolution Hamza's versatile talents had full opportunity to develop. He founded the first dramatics group, wrote plays for it, and performed as one of its members on Central Asia's fronts during the Civil War. He opened cultural clubs, literacy courses and schools, and helped to create the first text-books. New canals were built on his initiative. A popular leader and organizer, he was more like Mayakovsky than perhaps any other Soviet poet. He was a revolutionary and innovator in everything he undertook. Not only in poetry but in music, too, he boldly upset Uzbek artistic canons. He was nearly forty when he entered a Russian music school. He was the first Uzbek composer to use a piano, the first to oppose vehemently the old oriental manner of singing in a compressed throaty voice, the first to teach Uzbeks to sing standing up, the first to set about perfecting the *chang* and the *gijak*. Above all, he was the first to compose Uzbek revolutionary songs, songs that the whole Uzbek people at once caught up.

Hamza's every step was a shot at the old way of life, at the *baïs*, at whatever had to be removed if the new, communist truth was to triumph. And as was to have been expected, all the old, decayed and obsolete forces took up arms against him. On March 8, 1929, Hamza held a meeting of women, the first in Shahimardan, that day twenty-three women of the *kishlak* took off their *paranjas*. Ten days later a group of enraged mullahs, egged on by bourgeois nationalists, brutally assassinated him.

People of the older generation remember all that. But when men who knew Hamza and who worked with him tell the story, the younger generation take it as a story of times closer to Genghis Khan's than to our own. Each year in the life of these young men and women has been equal to decades, so swiftly has socialist Uzbekistan progressed. Visit the handsome new ten-year school in Shahimardan. Its teaching staff is made up of people who studied many years ago in the first school opened there by Hamza. As you look at the lively groups of boys and girls in the class-rooms, at their Young Pioneer neckerchiefs, at their cheerful faces, you realize how much the Soviet State has done for the Uzbek children.

When the school's amateur talent and hobby groups meet, you will see here in Shahimardan, as anywhere else in the republic, skilful,

bright-eyed little aeroplane model-makers, or a little Uzbek girl with forty plaits gazing raptly at a fish tank. You will see little artists, too, who get their noses daubed as soon as they start working, and on the walls, pictures they have painted, some with lines too bold, others lacking firmness, but all of them bright—pictures of fantastic palaces, steamers, red-starred aeroplanes. You will also see youthful constructors, photographers, violinists, chess-players, athletes. Every school in Uzbekistan is now a monument to Hamza.

Shahimardan itself has become a monument to the Uzbek revolutionary poet: it has been renamed Hamzaabad. The poet's mausoleum, erected by some of Uzbekistan's best architects, rises in the middle of the village, where he was assassinated. Two tumultuous little rivers merge their transparent waters not far from the fine buildings of a health centre which bears Hamza's name. The over-all reconstruction plan provides for the building of more health centres in Hamzaabad in the next few years, a hotel, a large library with a reading-room, where Hamza's manuscripts will be kept, a stone stairway set off by fountains, and also resort pavilions and arbours.

Hamzaabad is a favourite health and recreation resort of Uzbekistan's people. Holiday-makers who come from Tashkent, Samarkand, or Urgench to get the benefits of Shahimardan sunshine, mountain air and medical care at the health centre, are fond of borrowing a volume of Hamza from the local library and rambling in the vicinity with it; often they go to a dark-green *archa* thicket on the slope of a saw-toothed mountain, or to the nearby Lake Kuli Kubban, whose blue surface glitters amid smooth rocks.

6 SMOKE OVER THE VALLEY

The next important town on the railway line is Andizhan.

It is worth your while to get a bird's-eye view of Andizhan, the biggest town in Ferghana Valley and its largest industrial centre. To do that you have only to climb Mahmud Ali's Minaret by a steep circular staircase built of stone. At the top, under the cupola, is a round platform with an iron grating.

Flat roofs crowd together, honeycombed by the dark squares of little court-yards shaded by clumps of trees. Close by, kaleidoscopic throngs mill round in the collective-farm market. The recreation park spreads far and wide, and you can see white statues showing through green leaves, groups of well-dressed people stroll along the paths, a ball darts up and down over a volley-ball net. Farther off glisten the roofs of the central district, the streets there are marked by rows of Lombardy poplars, and their tops, viewed from above, seem to make up tree-lined lanes among the roofs. Electric-welding apparatus flash here and there on the town's building sites, you can see them clearly from above in spite of the bright sunshine. And everywhere your eye falls on mills and factories.

White, bluish, yellow, brown, and black columns of smoke rise above Andizhan as above a colossal camp where fires are burning. Smoke is thrown up by the brick chimneys of factories, it stretches away behind racing locomotives, it curls up from stove-pipes and peaceful hearths. Driven about by air currents, the smoke clouds tear to shreds and melt away, still, they create a lilac haze in the sky over the town.

When looking at the town's panorama from above, you cannot help recalling a modern Uzbek song which says of Andizhan, "Even the air does not fly over it, abashed by its beauty." The scene is particularly impressive early in the morning when strings of lorries, loaded with cotton, come speeding up the roads that converge upon the town. They strikingly bring home to you the fact that cotton is what keeps the town busy more than anything else. Andizhan Region produces more "white gold" than any other in the Soviet Union, and the town of Andizhan is the industrial heart of the Ferghana cotton area. Andizhan's large, modern factories make diesel engines and pumps for irrigation purposes, acicular disks for cultivators, and spare parts for farm machinery and mechanical tampers as well as for excavators. At the Motor-Repair Works, damaged tractors and cotton-picking machines are restored to life.

Every now and then a lorry carrying vegetables or fruit passes in the street below. The fruit is so fragrant that its sweet smell floats up to you at the top of the minaret a minute after the lorry is gone from sight. The lorry may pull up in one of the town's new workers' districts

or in front of a green-grocery, or enter the spacious court-yard of the Andizhan Fruit and Vegetable Cannery. The town has some other large factories, too, and is building more, besides polyclinics, cinemas, club-houses, and blocks of "hundred-windowed" flats.

Beyond the town's panorama, viewed from Mahmud Ali's Minaret, spreads a grand panorama of Ferghana Valley. On the one side the valley runs away into the distance, with a patchwork of fields in bloom and villages, and on the other it stands straight up, as if seen from the cockpit of an aircraft looping the loop. And above the horizon you can make out the peaks of distant ranges, looking like so many sugar loaves.

Aeons ago, when the Earth was only just developing and taking shape, and the Palaeozoic Sea that had covered Central Asia had receded, a sea remained in Ferghana. In the hot, moist air on the shores of that sea, forests grew in the Jurassic Period—giant ferns and horse-tails. Tectonic processes—the same processes which cause earthquakes today—gradually lifted the mountains around the Ferghana Sea higher and higher, opening the depths of the earth and laying bare the rich deposits of ore buried in it. We are reminded of those early days of our planet by the ore and coal deposits on the slopes of the ranges encircling the Ferghana Hollow, and by the deposits of limestone, oil, sulphur, and ozocerite (a wax-like mineral), where the sea was.

A few abandoned old mines where ironmasters plied their primitive trade, and two tiny oil-fields and two antediluvian coal-mines, built shortly before the Revolution by Russian businessmen who ran them by rapacious methods, exhaust the list of the industries set up in two thousand years to exploit Ferghana's mineral resources, whereas during the last twenty-five years—but first I ought to mention something else.

The Kirghiz herdsmen who graze cattle in the ranges around Ferghana Valley wear broad-brimmed fur-caps, usually over an Uzbek *tubeteika*. When they take off the cap they also take off the *tubeteikas*. Kirghizia's mountains rise like the fur edging of an upturned Kirghiz cap lying on the ground, and the Ferghana Hollow lies amid those mountains as a *tubeteika* inside the cap. The riches which the mountains have lavished on the Ferghanans lie in Kirghizia, while the heritage

left them by the sea is in Uzbekistan. But there is no reason why two Soviet states should build up economic barriers between each other. It is both more expedient and more profitable for them to run the valley's economy in common. And so, Kirghizia's and Uzbekistan's mining industries co-exist there peacefully as a single economic unit, just as the Kirghizian cap and the Uzbek *tubeteika* peacefully cover the same head.

Full and narrow-gauge branch-lines diverge from the Ferghana Railway to the foothills where lie Tashkumir, Kokangak, and Kızılkıya, large coal-mining areas of Kirghizia, and Shurab, a Tajik coal area. Other parts of this industrial area are, on Kirghiz territory, the Uchimchak Arsenic Mine, the Haidarakan and Kadamjan antimony, fluor spar and mercury mines, the Kızılkıya Works which produces stoneware and ceramics, facing and flooring tiles, and paving clinkers—and, on Uzbek territory, besides Kuvasai, the town of Shorsu where large sulphur and ozocerite mines have been developed. All these are only the first links of that variegated chain of mines and mills which will encircle the valley when exploitation of all the ore deposits discovered by geologists in Ferghana has got under way.

Inside that chain, Uzbekistan's cotton plantations make up an immense green sea striped by white-crested waves. Scattered in that sea like so many islands are, besides the industrial towns, the oil-fields of Ferghana Valley. There is oil in many other parts of the republic, too, but Ferghana is Uzbekistan's chief producer. Dozens of towns have sprung up next to the oil-fields here and there in the valley, including the big new town of Leninisk not far from Andizhan.

Leninsk reminds you of Yangı Yul, because once it was also an out-of-the-way *kishlak*, there, too, you may stumble upon an old *dehkan* clay hut, wedged between blocks of new two-storey houses, and you will see several new factories. A recreation park, perhaps the finest in Ferghana Valley, spreads on the high bank of the Shaarikhan, with a sports stadium next to it. After nightfall people crowd round the entrances of the town's three cinemas.

Two of Ferghana's largest oil-fields, called Palvantash and Andizhan, are near Leninisk. As you travel from Leninisk to Palvantash, the panorama of a white town lying amid grey hills gradually unfolds.

before you The cones of oil derricks stick up above the town Primkul Tashpulatov, a drilling expert well known in Uzbekistan today, was one of the first inhabitants of that town

I happened to meet him near a drill-hole one summer night when a bright moon was flooding the derricks with a spectral glow and the air was pure and mild The oil, which by day had a burnt smell, now smelled spicy and pleasant Around us the loud chirping of cicadas merged with the scarcely audible drone of pumps, as if to set off the low hum of the rotor

Tashpulatov started to tell me animatedly about a conference called by the District Party Committee in Leninsk, which he had just attended along with Pavel Strimov, Hero of Socialist Labour, a foreman, and Artik Khalilov, a drilling expert well known throughout the republic, to help work out measures for quicker drilling of wells He was telling me about those measures in detail when suddenly he stopped

"When I came to the oil-field twenty years ago," he said with a gentle smile, after a brief pause, "they showed me a drill-hole and told me oil would come out of it I was sure they were making fun of me How can a man tell, I said to myself, what lies buried deep in the earth? But now—"

He waved his hand with a laugh. Any oil-worker of Palvantash could have finished what Tashpulatov had left unsaid Now he knows, like hundreds of other Uzbeks—young but already experienced specialists in drilling and underground repair—how to "see through the earth," and when he hears the sound of a rotor his sixth sense tells him what is what at an enormous depth The Uzbek people have mastered modern industrial technique in all its complexity.

Two years after my trip to Palvantash, the radio brought word that turbine-drilling, a still more effective technique, had replaced rotary-drilling in the oil-fields of Ferghana Valley The Uzbek people have mastered this new technique too.

A pumping-plant stands at Assakeh, a railway station near Leninsk. Brown Ferghana oil is pumped from the oil-fields to Assakeh through pipes, and at Assakeh it is repumped into tank-cars. Another pipe-line delivers Leninsk oil to the Vannovskoye refinery, the oldest in Uzbekistan

But the greatest pride of Leninsk folk is their gas-main, which they owe to the fact that the Leninsk oil-fields also yield gas, a usual companion of oil. Gas stoves have long been a commonplace in the homes of the workers of Andizhan and Leninsk. Moreover, gas is now in everyday use on dozens of collective farms in the surrounding area—in kitchens, collective-farm smithies, bathhouses, cotton-dryers, and kilns.

7 A COLLECTIVE-FARM MARKET

The carpeted platforms of thirteen *chaikhana*s, linked by a single rush roof, are colourful with a variety of costume—from striped robes and *tubeteikas* to overalls. Steam is curling up from trays, tea-pots, and *piyalas* decorated with flower-patterns. You can hear the hubbub of a bustling crowd. Under the same vast roof, in the cool shade between the *chaikhana*s, are stands piled high with sweet-smelling grapes, peaches, apples, pears, plums, pomegranates, and melons. And there are colourful heaps of tomatoes, peppers, egg-plants, cucumbers, cabbages, parsley, bitter yellow and sweet white onions, yellow carrots minced and ready for the pilau. There are basketfuls of dried apricots—with stone or stoneless—raisins, dried peaches and muskmelons, walnuts, almonds, and pistachios. There are jugs filled with milk, koumiss, *airan*, *suzma*, or *katik*. There are twelve kinds of fragrant white flat-cakes of various shapes and patterns, made with caraway- and sesame-seeds. That is what the *Uzum Bazar* ("Grape Market") is like in Andizhan.

Close by is the principal collective-farm market of Andizhan. There, in several squares surrounded by clay walls, rows of collective-farm stalls, sheds, and eating-houses have been set up. It does not differ from the other town markets in Uzbekistan. Besides similar piles of colourful fruit and vegetables in lorries, vessels filled with milk, and shallow baskets full of flat-cakes, it displays bags of rice (white and pink), wheat, barley, millet, potatoes, beans, peas, and *mash*, a variety of pea that tastes like lentil.

"Sweet Row" boasts not only manufactured sweets, cakes, and lollipops in the shape of cockerels but a whole array of Uzbek sweet-

meats made by handicraftsmen's co-operatives Here you will find innumerable varieties of *halva*—with grape-juice, honey, lamb fat, nuts, or almonds—sweetmeats of flour that resemble skeins of unbleached thread, and the famous sugar *nishalda*, which the vendor froths with a special stick in a black kettle You will see clusters of translucent candy crystals, clusters that are like lumps of rock crystal, and nearby you may watch them in the making threads are strung criss-cross inside kettles put on a hearth, then molten sugar is poured upon the threads and crystallizes round them as it cools

Fresh, high-grade carcasses of cows and sheep hang in Meat Row You will see a hunter selling a mountain *keklik* he has brought down, or a pheasant, or a small Central Asian hare A seller of second-hand books has spread out his goods on a small rug, besides text-books and modern stories, you may find in his stock an old oriental manuscript. The vendor of gramophone records is always surrounded by a lively crowd of buyers. Little red pyramids of ground pepper vie in purity of colour with pyramids of blue, with dark-green pyramids of plug tobacco, and with pyramids of ochre, antimony, henna, *basma*, and other dyes. Handicraftsmen's co-operative stalls display narrow-necked jugs and glazed clay dishes, silk belts and the famous *ayom* satin, Uzbek musical instruments and horse harness State-owned shops set up in the market-place offer the whole range of manufactured goods—from fabrics and clothing to aluminium vessels and wireless sets, which are much in demand among collective farmers. Lost among the numerous collective-farm lorries, a solitary camel lies moaning in the market-place Sheep huddle together, tied in pairs by the heads, so that they may not stray. In the colourful throngs of collective farmers and townspeople, you can catch here and there glimpses of donkeys trotting along, carrying saddle-bags, sheaves of clover or lucerne, or a load of brushwood so big you can only see the tip of the beast's muzzle and its small feet

The seething stream of people forms whirlpools at the eating-houses, which spread the pungent, heady smells of sesame oil and lamb fat Boiled peas strewn with red pepper and garnished with white circlets of onion, a favourite dish of Uzbek children, steam in *piyalas* on small tables in front of an eating-house. Close by, little *samsa* pies—stuffed

with lamb and onions—are being baked in a *tandır* (a kind of oven made from clay with an admixture of wool), the pies are plastered to the inside walls of the oven. The dais in an eating-house is covered with *palases* or carpets, as in a *chaikhana*. On the edge of the dais, between the wooden pillars that support the roof, a cook is waving a small shovel over a narrow brazier to fan the coals, he turns short sticks with sizzling pieces of lamb on them now to one side of the fire, now to the other. In an eating-house you can have, also, a big cup of *shurpa*—a golden soup with pieces of mutton and peas and other vegetables, and other Uzbek dishes, seasoned with aromatic herbs, as well as the renowned pilau. Skill in preparing pilau is valued highly in Uzbekistan, so much so that the names of the best pilau-cooks are known far beyond the town in which they live. In the Andizhan market there are also eating-houses run by Uighurs who come from Sinkiang, Chinese Turkestan. Their cooking reminds you of the Chinese cuisine, with its extraordinary variety of farinaceous dishes, sharp contrast between unseasoned and spiced dishes, and special flavour of the condiments.

A collective-farm market is colourful, distinctive, fascinating—and it is utterly unlike the bazaar of only a quarter of a century ago. The bazaar used to be the “centre of the universe,” the main nerve-centre in the life of the Central Asian feudal town. As a matter of fact, Uzbekistan’s towns did not come into being as such, but as vast bazaars which gradually found themselves encircled by clay huts, court-yards, and narrow streets.

The first to disappear from the market-place—and this happened before the Revolution—were the firesellers who used to carry pots filled with smouldering coals. They went out of business because matches were put on sale. Next to disappear—after the Revolution—were the hawkers of quack medicines; they were superseded by modern pharmacies, with coloured glass globes in their show-windows. The bazaar tooth-drawers, who used to wander about armed with huge tongs, disappeared too. So did the bazaar barbers, who would bleed people for any indisposition, and the bazaar bone-setters and quacks, who were replaced by doctors that receive their patients at free district hospitals. Scribes used to sit at bazaar crossings, with inkpots hanging from

straps slung over their shoulders, they, too, had to go because the people learned to read and to write their own letters. The bazaar criers, who used to announce state and city news, also went, they were replaced by newspapers, and later came the radio.

You may still hear in a market *chaikhana* a folk singer singing to the accompaniment of a *dutar* or a tambourine. But the most celebrated singers perform today at concerts in theatres or clubs. Every town now has at least one theatre. The market eating-houses have by now shared part of their fame with restaurants and public dining-halls. The old-time bazaar kept on shrinking till it became what it should be, namely, a place where Uzbek collective farmers and handicraftsmen sell their produce and merchandise, and where Uzbek culinary specialists in the employ of the state treat people to their dishes.

In the new, socialist town the collective-farm markets have gained a position all their own which, though modest, is a stable one. Their arrangements are kept in good repair and are being improved all the time, high standards of cleanliness are maintained. In the large industrial town of Andizhan the famous *Uzum Bazar* has been reconstructed. Today the richness and colour of the fruit yielded by the lavish nature of Ferghana, the gamut of colours typical of Uzbek costume and Uzbek ornament, as represented in the *chaikhanas*, combine in that market with the cool shade provided by a vast new rush roof.

8. HOMELAND OF COTTON-GROWERS

When you drive out into the country from Andizhan in autumn, you see hundreds of people busy from morning to night watering the roads with *arik* water. Why do they do that? Until ten years or so ago, no one ever watered those roads. You are mistaken if you fancy that the waterers are so solicitous of your comfort that they want to protect your lungs from the dust raised. They have something different in mind: that the dust raised by lorries and *arabas* should not settle on the fields, where it might soil the snow-white cotton fibre hanging down from the bolls that have burst open. That will give you an idea of the interest which collective-farm cotton-growers of Ferghana Valley today show in their work.

Take a drive along any of the roads leading out of Andizhan. On the outskirts of the town your car crosses a bridge over a frothy stream, passes some factory buildings, and then runs along between fields. Oleaster-trees glide by like so many columns of silvery smoke. You catch glimpses of vineyards, and the streets of wayside villages. A little girl waves her hand to you from the top of a clay hut. Then again you see roadside *ariks* and fields—mostly cotton-fields clad in dark-green leaves.

When you set out to find a celebrated cotton-grower, look for him not in the village but in the field. Truly do the people of the Andizhan collective farms say: "If you care for your field, go to it before the lark starts its song, and come back when the bats are circling overhead." Besides, a walk in the fields with any of those cotton-growers is bound to rouse your interest.

Stop in a cotton-field to look at a shrub. It has a stalk, leaves, flowers, and bolls with fibre. There is seemingly nothing unusual about it. But if it could speak, it would tell you a highly interesting story.

In 1923 I once spent a night in a village *chaikhana* not far from Andizhan. In the back part of the *chaikhana*, *dehkans* were sitting in a close circle around a crude lamp. By the faint light of the lamp—it was rather like the lifeless glow of a piece of rotten wood—a man, probably the local mullah, was reading in a sing-song voice one of the books of the *Sharia*. "*Sharia*" is Arabic for "right way," meaning "right way to the happiness of paradise." The book, entitled "The Weavers' *Risala*," dealt with the origin of cotton and told the story of how Archangel Gabriel taught Adam to grow cotton, spin, and weave. The *dehkans* were listening to the fable with naive credulity. At the time they were illiterate, they ploughed their land with an *omach*—a primitive wooden plough their forefathers had used "since the days of Adam"—gathered from their cotton-fields a small quantity of short, rough fibre, and believed the *Sharia* to be the "right way."

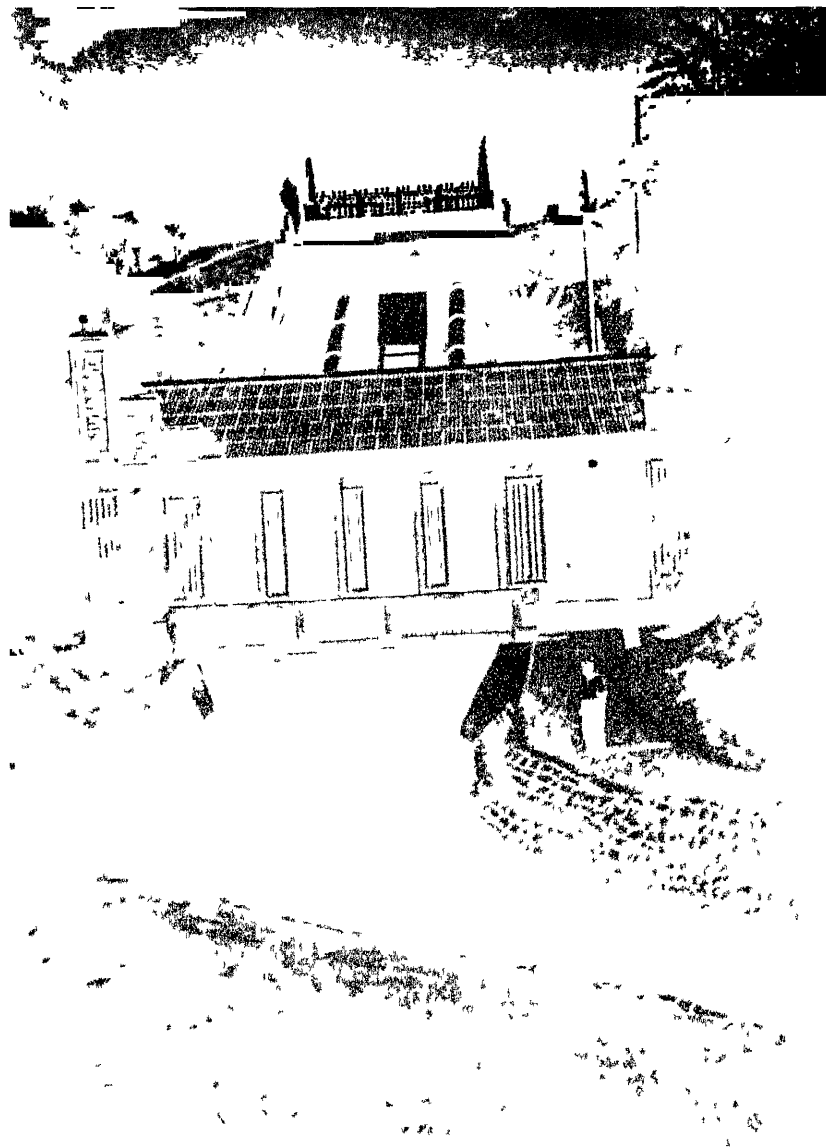
Then collective farms were set up. A fresh wind brought a new, socialist culture to the countryside. The Uzbek cotton-growers learnt to read and write. Tractors came to the fields. The last *omach* moved to a museum in Andizhan. People were making rapid progress in the Uzbek *kishlaks*. A new way to real, earthly happiness—the right way—had

been opened to them That right way was laid down in a thin booklet, a booklet which proved "weightier than a thousand volumes" Uzbek cotton-growers, too, had a share in writing it, together with other collective farmers Joseph Stalin invited them to the Kremlin to discuss the best ways of organizing work so as to ensure prosperity both for the collective farms and their members Thus the "Rules of the Agricultural Artel" was born

I do not have to dwell on the important part which the Rules of collective-farm life have played in the socialist revolution in the countryside Like all Soviet citizens, the Uzbek collective farmers realized with growing clarity as time wore on that they were not only masters of their collective-farm yards but of the entire Soviet land That brought about an abrupt change in their attitude towards their work And that was when the "Four-Tonner" movement, the right way of Uzbekistan's cotton-growers, arose on a Ferghana collective farm The shoots of a new, communist attitude towards labour pushed forth in the Uzbek countryside

To show you those new shoots not in the shape of a dry news item but in the heart-beat of real life and to help you grasp the historic importance of the abrupt change in the life of an entire generation of Uzbek *dehkans*, as a result of which they began to regard what was their own private and personal business as petty in comparison with the common cause of the whole people, I must say first of all a few words about that common cause of the people. During the interview he gave to the first American labour delegation in 1927, Stalin said that the Soviet Union had to import certain raw materials, including cotton At the time we were importing cotton from Egypt, America, and India In 1929 the Central Committee of the Communist Party adopted a decision "On the Struggle for Cotton Independence" The brunt of the effort in that struggle was assigned naturally to the Uzbeks, a nation of cotton-growers.

The Uzbeks have this old proverb: "He who owns much is tireless" Freed by the Revolution from colonial slavery, the Uzbek cotton-growers became owners of much. What colossal forces this awakened in the people and how tireless it made them can be seen from the following fact: as early as two years after the Central Committee passed its



The Baltakul Inter-Collective Farm Electric Station





Unloading raw materials at the Ferghana Oils and Fats Mill



The Shahimardan River

decision, the Uzbek *dehkans*, in collaboration with Turkmen, Tajik, and other cotton-growers, made the Soviet Union completely independent of cotton from abroad. During the next two decades the collective-farm cotton-growers increased output tremendously, with the result that now the Soviet Republics of the East produce as much cotton as India, Egypt, Iran, Turkey, and Afghanistan put together.

"Don't tire!" is an exclamation with which *dehkans* working in the fields have been greeted in Uzbekistan since days of old. When they say this today, people mean not only what is best rendered by the English "God-speed" but something new and stirring always be of good cheer, for the happiness of all mankind depends on your cheerfulness and your labour effort. "Don't tire!" As if in response to that wish for good luck on the job, the "Four-Tonner" movement was started in the cotton-fields of Uzbekistan. Its aim was to raise a crop of four tons of cotton per acre.

"Don't tire!" Encouraged by this greeting, as it were, front-rank Uzbek collective farmers began experimenting in their fields on such a scale that the entire science of cotton advanced with giant strides. Today you will find the names of collective-farm experimenters on nearly every page of treatises on cotton-growing, because their work has paved new paths for science. Books on cotton by scientists and pamphlets dealing with the practical methods used on cotton-growing collective farms are no doubt of deep interest to the specialist, but tedious, perhaps, to the ordinary reader. But if you were to stay at a collective farm, even for only a few days, you would realize what the Battle of Cotton means to the Uzbek people. You would discover that it pervades their day-to-day life; you would see it in things ordinary and common; the general atmosphere of heart-felt concern and love for one's work would win your heart and impress you for the rest of your life.

Cotton-growing has become Uzbekistan's national pride. The cotton-plant, lighted up by the generous rays of the rising sun, is represented in the State Emblem of the Uzbek S S R. Folk songs and symphonies are composed about the cotton-boll, the boll which clothes the world. In Uzbekistan you come upon the cotton-boll in the design of new books and in the ornamentation of new buildings. In autumn you see collective farmers wearing it like a rose—stuck under the *tubeteika*,

over the ear. On big holidays school children carry on poles high above their heads huge cotton-bolls made of coloured paper. People are fond of being photographed in a cotton-field, for the field is their pride. And so photographers in the bazaars have a back-drop allowing you to get your picture taken in a field of ripe cotton even though it may be spring-time.

Whatever is said about Uzbekistan's cotton-growers applies in particular to those of Andizhan. It was there that the "Four-Tonner" movement attained the greatest scale. It was the people of Andizhan who pioneered in bringing new tracts of land in Ferghana Valley under cultivation. And in 1949, it was in response to a call made by the Komsomol members of Andizhan, that the Uzbek people launched an offensive against the Hungry Steppe. In the Hall of Advanced Agricultural Technique that was part of the Cotton Pavilion at the U.S.S.R. Agricultural Exhibition in 1939-40, where the best cotton-growing collective farms of the country were represented, more than 50 per cent of the display space was given over to collective farms of Andizhan Region. Even on the map of Andizhan Region you find the word "cotton": Pakhtaabad, a district capital, means "Cotton Town."

Collective farmers come to the fields of Andizhan Region from all the cotton areas of the Soviet Union—some from as far as Moldavia and the Ukraine—to borrow the latest scientific methods of cotton-growing. Czechoslovak and Hungarian peasants have come there to see for themselves the high level of farming efficiency that socialism brings. The fields cultivated by such "Four-Tonners" as Hadichi Ahra-rova, an Altin Kul collective farmer, the experimenter Alim Kurbanov, of Pakhtaabad District, who is a member of the U.S.S.R. Agricultural Academy, and other front-rank Andizhan collective farmers have long been as famous in Uzbekistan as Ulug-Beg's Observatory in Samarkand or the health centre in Hamzaabad. The most renowned Andizhan Region cotton-field, however, is not on a collective farm but at the Ferghana Zonal Station of the U.S.S.R. Research Institute of Cotton-Growing, on the outskirts of Leninsk. There L. Rumshevich, a well-known plant-breeder of Ferghana, evolved the 108-F variety of cotton, for which he was awarded a Stalin Prize. Most Uzbek collective farmers now raise that variety.

In 1949 the Uzbek Academy of Sciences convened a session in the town of Ferghana to discuss the valley's productive forces. During the session prominent Uzbek scientists sat round the conference table with famous collective farmers from the cotton-fields of Ferghana. Front-rank Uzbek cotton-growers read papers on the 108-F variety. Citing facts and figures and displaying charts and samples of cotton fibre from collective-farm fields, they spoke of changes in the amounts and periods of water applications required by that variety.

Rumshevich demonstrated to the collective farmers his new 137-F variety. (In 1952 he evolved the 147-F variety, which has a still higher yield and higher fibre content). He knew that the Andizhan collective farms would be among the first to sow that variety on large areas, because they were headed by real innovators, men with whom he spoke the language of science, as one agronomist with another. By associating constantly with scientists and keeping abreast of their latest achievements, the collective farmers of Andizhan Region have long since become genuine specialists, proponents of agricultural science in their fertile valley.

Americans call cotton a "child of the sun." Until recently it was held that the more sunny days the higher the yield, for the cotton-plant perishes only when winter comes. In autumn Uzbekistan is left without sunshine much earlier than the southern cotton states in America. Still the Uzbek collective farmers now harvest from every acre an average of 150 per cent more cotton than the American planters. The most advanced collective farms of Andizhan Region gather, like all front-rank collective farms in Uzbekistan, an average yield six times as high as American farmers. As to the Heroes of Socialist Labour, who are the best among the best, they excel the Americans by 1,000 or 1,100 per cent.

Although Uzbekistan does not quite get the right amount of sunshine, the Uzbek cotton-growers have long since left the U.S.A. far behind, for they were aided by socialist science and by the truth of socialist life, under which every collective farmer has come to be a kind of agronomist, a specialist in his field. Thus the old Ferghana proverb, "Truth is brighter than sunshine," has acquired on the cotton plantations a new value.

9 NAMANGAN

Namangan is the fifth largest town in Ferghana Valley and the only one situated north of the Syr Darya

The bluish foothills of the Chatkal Range overlook Namangan like a huge wall. In summer, black storm-clouds sometimes creep over that wall to darken the sky above the town. Flashes of lightning illumine their dangling smoky fringes, and thunder shakes the sky. But the roosters in Namangan do not crow to announce a change of weather, the lightning ceases and the clouds scatter without spilling a drop of rain. Hot air currents rising from the bottom of the hollow completely absorb the moisture.

The town lies on a flat, but its house-tops rise in some places one above another, forming here and there something like little terraces. Houses crowd along the high bank of the Namangan River, with steep paths running downwards from them. A girl going up one of those paths with a water-jug on her shoulder reminds you of a dweller of the Caucasus.

In the central part of Namangan, trees are absolute masters. For the size, beauty, and magnificence of their trees the town's parks, public gardens, and streets are comparable to Ferghana's only, if at all. But the background against which the trees, houses, factories, new school-houses, theatres, and shops are outlined, is entirely different. Many people have seen that background at the All-Union Sports Parades in Moscow. No matter how varied the performance of the Uzbek sportsmen, in every parade there arrived a moment when Red Square or Dynamo Stadium suddenly grew white with hundreds of mammoth cotton-bolls coming from nobody knew where.

Lorries deliver a steady stream of cotton and fibre-covered cottonseed to the gates of Namangan's ginneries and cottonseed-oil mills. White mountains rise above the walls of the vast factory yards. They can be seen clearly through the lace-like greenery of the trees; they are reflected in the house-windows and in small water reservoirs. And you have the feeling that the snow-capped peaks of the Chatkal Range, standing behind the blue foothills, are just so many reflections of the enormous, dazzling-white piles of cotton scattered about the town.

The people of Namangan are also proud of their "mountain cotton," as they call the "Uzbek Longwool" breed of goat. The name comes from the animal's long, white, silky wool, used for making excellent rugs, expensive velvet, and hard-wearing decorative and upholstery fabrics. Angora goats were introduced into various districts of Uzbekistan in 1937. The bluish ridge of foothills beyond Namangan turned out to be the best place for them in Uzbekistan, and one of the best in the Soviet Union. Before long the goats acclimated themselves and began yielding wool that was not inferior to the best Turkish kinds. But Soviet breeders working at the Uzbek Research Institute of Stock-Farming went further. By crossing Angoras with local goats they created a new breed much larger and more prolific than the Angora. Today more than two hundred thousand Uzbek Longwools graze on the pastures of the Chatkal and Kurama ranges.

The fields of the Stalin Collective Farm, one of the most interesting in Ferghana Valley, spread near Namangan, beyond its suburban orchards and vineyards.

Any wayfarer who arrives at a roadside *chaikhana* after nightfall knows that he can get lodging there for the night. Such has always been the custom in Uzbekistan. But the *chaikhana*-man at the Stalin Collective Farm will lead you to the gate of a nearby orchard for guests, where the collective farm has a hotel with mural paintings. There you will find a clean bed, a soft pillow, a table with newspapers and magazines, and a telephone.

A straight paved street diverges from the highway where the *chaikhana* stands. It is lined with Lombardy poplars. Electric wires glisten between them, and the local sparrows fully appreciate, as do their town fellows, the opportunity those wires offer for holding short conferences.

The collective-farm cottages in that street illustrate the new way of living. Indeed, the old clay huts never had anything like bright windows opening on the street, porcelain insulators on the outer wall, foundations that hint clearly at wooden floors, front entrances with stone steps, or chimneys. There is only one building, with vaulted domes, that makes you think of old Asiatic architecture, it is the collective-farm bathhouse.

Drop into any home You will see patterned *suzanas* next to European furniture, chased bronze jugs side by side with the whole range of articles used in a modern household And what is quite extraordinary, the walls of the rooms are covered with colourful painted landscapes Central Asia knew nothing of painting, with the exception of ancient Uzbek miniatures It is only now that the world of painting has opened to the Uzbek people

The main street of the collective-farm village forms a T with a cross-street that is just as new and straight and stretches to the cotton-fields in the distance The place where the two streets meet is surrounded by new buildings a collective-farm nursery, a seven-year school, and a co-operative shop Close by, the collective farm has a new farm-yard, and a bit farther off are new cattle-sheds and barns The reader may well reproach me for using the word "new" too frequently But what can I do if our vocabulary is lagging behind the impetuous growth of the new in our country and if our language does not possess so many synonyms of "new" as it does of "old"?

The finest new buildings in the village are the office of the Stalin Collective Farm and the clubhouse, with a film projectionist's booth. Even the outside walls are decorated with painting. Most interesting of all, the architect has ingeniously introduced broad *supa* daises for the spectators in the auditorium of the clubhouse. Covered with rugs, the daises encircle a narrow row of armchairs, so that collective farmers can sit cross-legged on the daises, as in a *chaikhana*, while they watch the stage performance

In the office-building there is a large, sunlit room which I would call unusual but for the fact that now many Uzbek collective farms have similar rooms. Shining laboratory instruments, retorts, and test-tubes stand on the shelves along the walls of this room. A black-eyed girl, a member of the collective farm, is swiftly turning a small drum by the handle, winding snow-white fibre Other laboratory assistants, also young women, are bent over note-books full of figures Show-cases with specimens of the cotton-plant, flowers, and seeds hang on the walls. The room is the heart of the collective farm—the laboratory of its select seed-growing section

When, in the early years of collectivization, a collective-farm laboratory was set up here, one of the *dehkans* who was not used to new methods of work, said to the chairman, "Why bother with a lab? We can do all right without it." The chairman laughed and replied with this proverb "To a bad horse even a rain-cloud is a burden." Three years later even the most backward members of the farm were proud of their laboratory. It had helped the collective farm to increase the cotton crop from year to year and to register an annual income of millions of rubles.

Three traits distinguish the members of that front-rank collective farm: thrift, bold initiative, and a tireless interest in spreading new methods as widely as possible. They built an electric station that lighted up the darkest corners in every home. The housewives saw cobwebs in those corners and took up dusters to wipe them away. That simple gesture marked the beginning of a cultural revolution in their life. Since the electric station of the Stalin Collective Farm supplied current to many villages, those housewives were not the only ones to take up dusters; women in the neighbouring *kushlaks* did the same, and then set about rearranging their households.

On Uzbekistan's collective farms electricity today sets in motion rice-hulling machines, hulling- and flour-mills, fertilizer-grinders, pumps to lower the level of subsoil waters, and other pumps to raise water for lemon and pomegranate groves. It powers lathes in machine-repair shops, threshers, clover choppers, and sorters, it winnows beet, carrot, and onion seeds, it chops and compresses feeds. It is used for drying cotton, welding, charging accumulators, heating collective-farm nurseries and out-patient hospitals, and treating collective-farmers who need sun lamp irradiation. Electric power now does the work of hundreds of people.

Uzbekistan already has hundreds of electrified collective farms. There is a particularly large number of them around Tashkent, for those farms could more easily enlist the assistance of the city's architectural designing offices and factories. Step by step, republic-wide electrification and reconstruction of villages got under way. Its scope will become clear when I say that by 1955 the whole republic will have completed its rural electrification programme.

Here I should like to recall an incident that took place in Samarkand long before the Great Patriotic War, when the first *kushlaks* had just been electrified and reconstructed

One day some foreign tourists arrived in Boshlogi Bolo, one of those *kushlaks* near Samarkand. An Englishwoman stepped out of the car and took a picture of a crooked, flat-roofed little house behind a crumbling clay wall.

"Why is she doing that?" asked an old man who came up. "That shanty's going to be pulled down. I used to live in it. But now I live over there."

He pointed to a new cottage not far from the collective-farm electric station.

"Yes, the Communists are certainly killing all that is exotic," said the Englishwoman with a sigh.

"What did she say?" asked the old man.

"She's sorry you're doing away with the old things, with old beauty," the interpreter told him.

The old man smiled. "Please tell her that I'll be happy to offer her that fine old house. She's welcome to live in it. As for me, I won't mind living the rest of my days in my new home."

There are no more "picturesque" rags or "scenic" ruins in Uzbekistan. The only things of the past the Uzbek people carefully preserve are architectural memorials, even those lying in ruins. As to "exotic" poverty, the people have discarded that for ever. Maximum satisfaction of the people's constantly rising material and cultural requirements is a law of the development of Soviet society. Whereas in capitalist society man is subordinated to the ruthless law of securing maximum profit, under which people are doomed to terrible suffering, poverty, unemployment, and sanguinary wars, in socialist society all production is subordinated to man and his constantly rising requirements. Witnesses of this are the hundreds of thousands of new houses on collective farms throughout the republic, and the programme for reconstructing all the collective-farm villages in Uzbekistan.

10 NEW PATHS FOR WATER

If a traveller who visited Ferghana Valley for the first time journeyed by boat along the Syr Darya instead of by train, and if someone were to ask him afterwards what that fertile valley was like, he probably would only shrug his shoulders on hearing the word "fertile."

He would speak of vast expanses of sand—now yellow, now grey—cut by the muddy Syr Darya, of salt marshes glittering in the sun, and of *takirs*, as bare patches of sun-cracked clayey ground are called. Only in a few places is the Syr Darya separated from the desert by a bright-green belt of *chuy* (very tall Central Asian sedge) and a tangle of shrubs where birds nest and sometimes the amber-coloured eye of a chaus cat gleams. Grey dunes rise beyond the *chuy*. They would seem lifeless but for the tall rosettes of fleshy greenish-pink rhubarb leaves, jutting up here and there, and the camel's thorn shrubs, from under which a snake occasionally glides out like a streamlet of some oily stuff.

From time immemorial, the Yaz Yavan Steppe has sprawled between that sandy desert and the zone of cultivated land. Every spring children would go to the steppe to pick tulips. And in summer ragged shepherds, whom the *bais* barred from highland meadows, would roam the sun-baked steppe with small flocks of poor men's sheep. Hawks and eagles soared over the steppe, looking for *susliks*. That fertile but fruitless and sparsely populated steppeland was capable of being changed into a huge flowering oasis. But only a *hashar* could irrigate it.

Hashar is an old word that is ever-youthful, symbolizing the spirit of the people. It is untranslatable. Whenever there is a big earthquake, all the inhabitants get together for a *hashar* to rebuild the destroyed dwellings by joint effort. If a bridge has to be built across a river or the bazaar roofed with rushes, there is the *hashar* to tackle the job. A *hashar* is collective work, and at the same time mutual assistance in need. *Hashar* means friendship, too, if you have an enemy, you forget your enmity for a while and join your energies with his to fulfil a common task. The word *hashar* has a festal connotation as well. Folk singers and musicians have always gathered at *hashars* to provide entertainment and cheer for those who are working. At a *hashar* one can hear from morning to night the sonorous roll of *nagara* kettledrums, the

call of *surnais* (Central Asian folk oboes), and the powerful blare of *karnais*, huge trumpets that "shake the skies" with their sound.

There were instances, however, of khans and *beks* using *hashars* to their own selfish ends. They would force people into fulfilling some heavy feudal duty and cloak it by the word *hashar*, held sacred by every Uzbek. That is why in some parts of Uzbekistan the word came to have a somber connotation. The Soviet State lifted the yoke of feudal duties from the *dehkans'* shoulders and for ever restored to the word its original, popular, radiant meaning.

In the early years after the Revolution, the Ferghanans reconstructed their ancient irrigation systems by building modern locks, collectors, and spillways. And in 1939, at the call of the Communist Party, they rallied for a colossal *hashar*, one unprecedented in scale, to dig a new canal and divert surplus water from the Isfairom into the Shahimardan, whose lower reaches had always had an acute shortage of water. They went about the job with such zeal and energy that they accomplished what seemed impossible: they dug the Lagan Canal, twenty miles long, in a mere seventeen days. The news spread like wildfire throughout the republic, it stirred all Ferghana. Thus the idea of construction jobs by popular effort was conceived.

Inspired by the example of the Lagan Canal, the Ferghanans decided in the same year on the ambitious plan to dig a new bed for the Syr Darya, so as to channel part of that Central Asian river into it and irrigate the entire steppe. A hundred and sixty thousand collective farmers came together at a grand *hashar* and built the Great Ferghana Canal in forty-five days. Those forty-five days constituted a sum total of thousands of years, of the whole history of Central Asia's peoples. Never before had so colossal a canal been built in Central Asia, a canal stretching for 168 miles.

They say that Burhanov, a young Uzbek composer, once compared the Lagan Canal to the prelude of that majestic symphony—the Ferghanans' struggle with Nature—of which the building of the Stalin Great Ferghana Canal was the first movement. I think the comparison splendid.

Have you ever visited a canal project in Uzbekistan and seen the spirit with which people work there, that gay, zealous vigour which

nothing on earth seems capable of resisting? Have you sat before one of the steaming samovars set up along the canal site, relaxing and listening to music played by folk orchestras? Have you attended the inauguration of a canal and experienced, with its builders, the thrill of watching the water approach? The water appears far ahead, brown, foaming, and bubbling, then draws near, and those waiting burst into ecstasies of joy, that unrestrained joy when people forget the conventions inculcated by lifelong routine, that joy which suddenly makes old people and little children, men and women, fling up their *tubetelkas* or run to keep pace with the flowing water, then stop for a moment, only to take up the race again? If you have ever gone through those naive, delightful moments of sincere joy, you will preserve their memory all your life, and it will ring in your heart like music.

The opening of the Great Ferghana Canal did not conclude the first movement of the symphony, it was only its climax. Into the symphony came the mighty rumble of tractors ploughing virgin soil, the creaking of *arabas*, the lowing and bleating of herds and flocks, and the ripple of human voices as thousands of collective-farm families started with their belongings and livestock for the Shaarikhan and Yaz Yavan steppes. They built houses, marked out the streets of future *kushlaks*, dug irrigation ditches, and planted trees. At first the new settlers were so short of shade that there even arose a song in which a young man asks his sweetheart "to shelter him from the sun in the shade of her eyelashes."

While the first movement of that majestic symphony—the Ferghanans' struggle with Nature—may be called "Conquering the Steppe," its second movement should be "A Fine-Spun Irrigation Network." This was also a bold and unprecedented scheme. The fact was, besides the steppe sprawling in the midst of Ferghana Valley, here and there in ancient oases there were hundreds of thousands of patches of land that lacked water. One would walk on and on across orchards and fields, and suddenly see the road end in a waste lot overgrown with wormwood and meagre thorns. Thus, Ferghana Valley was all in tatters, and irrigation experts and collective farmers decided to give it a new, smart garment.

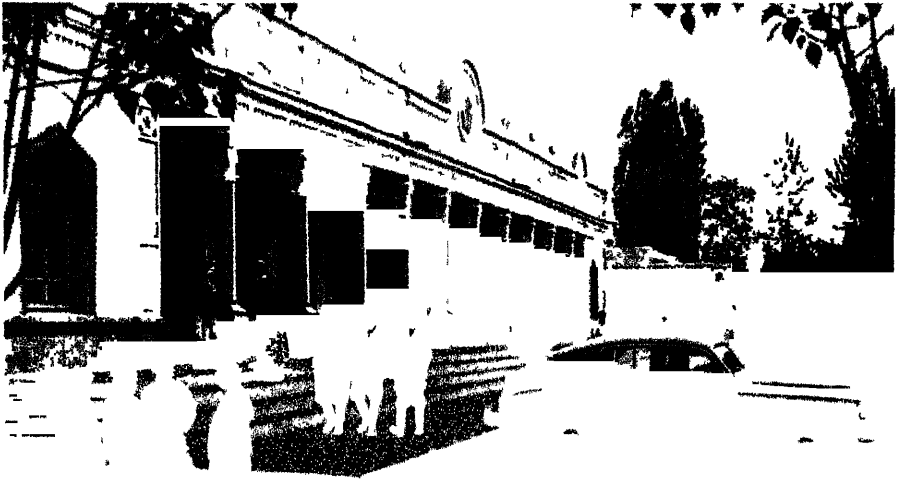
So, starting from the Kara Darya, they built the South Ferghana

Canal to irrigate the Andizhan and Maigelan oases. The Namangan Oasis they encircled with the North Ferghana Canal. The arid steppe west of Namangan also came alive with human voices, trees and cotton-fields gave it a new dress of green and white. On the river Kassar, in the north-western corner of the valley, they built the Urta Tokai Reservoir, which holds 3,530,000,000 cubic feet of water. They blocked up the Sokh by a ferro-concrete dam, with a diversion weir to channel water to the patches of unirrigated land.

Step by step Ferghana's irrigation workers did away with the yellow spots of sun-scorched steppeland. In 1952 the collective farmers of Ferghana submitted to the U S S R. Government a scheme for a decisive offensive against the Yaz Yavan steppe, to reclaim it to the last clump in three or four years. Most interesting of all, they have made up their minds to do the job at their own expense, that is, out of the investment funds of their farms. They will spend about 4,000 million rubles on this project. But even that will not conclude the symphony. It will only end the second movement, and then the third movement, the finale—perhaps the grandest and most stirring—will go on.

Near the Syr Darya, in Ferghana Valley, there will still be left the vast Kara Kum Desert, covered here and there with shifting sands, broken stone, or salt marshes. As of old, the crests of the dunes seem to smoke slightly as the wind blows. As of old, a hairy solpugid spider prowls after nightfall, or an occasional lizard darts between two dunes as swiftly as a tiny streak of lightning. There is no sense in irrigating that desert, because nothing useful can ever grow on its sand and stone. Soviet reclamation experts have simply decided to flood it and turn it into a sea.

In a few years the people of Kokand will be able to go to the country every Sunday to swim, boat, or bask on the shore of an immense sea. Subtropical groves will grace the coast, for the sea will have tempered the droughty climate of the valley; not only lemon and tangerine groves but magnolias, eucalyptuses, and persimmon-trees will blossom. Fishing-boats ploughing the Ferghana Sea, a sea that is to cover an area of 230 square miles, will leave white ribbons in their wake. It will then be possible to leave Ferghana Valley by steamship. Gulls will circle over the stern of the ship all the way to Kara Kum Dam.



The House of Culture of the Stalin Collective Farm, Ferghana Region



L. Rumshevich (second on left), Stalin Prize winner, shows collective farmers a new variety of cotton-plant he has evolved



A travelling book-shop which caters for the collective farms
of Fergana Region

The dam, which is to go up on Tajik soil, at the gateway to Leninabad Gorge in Ferghana Valley, and the hydro-electric station to be built next to it will make up one of the major projects of the future. The project will be accomplished jointly by the Uzbek, Tajik, and Kazakh peoples. It will provide the Tajiks with a large hydro-electric station, and the Uzbeks with a huge sea, besides, the Uzbeks and Kazakhs will acquire giant expanses of new-irrigated land.

But to see that land, you must say good-bye to Ferghana Valley—that sunlit, blooming, rich, and beautiful valley—and go back to Farkhad's Rocks by way of Leninabad Gorge. It is into the gorge that the water of the Ferghana Sea will rush, and from there that it will surge down canals westwards, to the Hungry Steppe. Thus the symphony of the Ferghanans' battle with Nature will be crowned by the same legendary figure, that of the Uzbek builder Farkhad, who from the vantage point of the rocks sweeps his land with an eagle eye, as if thinking what more has to be done or built to entitle man to call himself—without bragging or arrogance, but unassumingly and simply, with a full awareness of his true strength—master of the Earth.



 DOWN 

THE ZARAFSHAN





1. ON THE ADIRS



our train is rolling along towards Samarkand through austere, majestic country. The dark crags of the Nur Ata Range tower on both sides of the railway. In the gorge below, the Sanzar River speeds from rock to rock.

The gorge leads out into rolling steppeland, and just before entering it the train stops at Milyutinskaya. At first sight there is nothing about the place to hold your attention; beyond the small station building you can see the iron roofs of a town, with rows of trees lining dusty streets. Somewhere in the distance you hear a lorry, a hen cackles loudly to let everyone know that she has just laid an egg. There could hardly be anything worth notice in an out-of-the-way town like that, clinging to barren rocky mountains.

But your first impression is misleading. Milyutinskaya is one of Uzbekistan's most interesting towns. Moreover, it is the capital of her *bogara* and *adirs*. But first I must tell you what *adirs* and *bogara* are.

In Central Asia the *adirs* are sometimes called "counters" of the mountains. Those "counters"—gullied foothills rising above the steppe—skirt all Central Asian ranges for hundreds of miles. Since early times there have been thousands of tiny oases on the mountain rivulets that cut their way across *adirs*. But until a short time ago the paths linking those oases wound through deserted steppe. Looking at the lush greenery of those miniature oases, the casual wayfarer would be amazed by their fertility.

A poor *dehkan* who had no irrigated lot of his own would plough a patch of land in a small hollow on the off side of an oasis, hoping for good luck and counting on the extraordinary fertility of the *adirs*. From time immemorial, patches of land like that have been called *bogara* in Central Asia.

Everything was all right if the barley sown by the *dehkan* on his patch ripened before the heat set in, he was sure then to reap a rich harvest. But whenever the *garmsil*, a terrible and inexorable enemy, attacked his patch, he had to give it up. And if he did not have two or three sheep to graze in the mountains, he would appear on one of the dusty roads of Samarkand or Tashkent to add to the number of beggars.

The *garmsil* ("hot current") is a wind that brings with it the parching heat of the desert. How could Uzbek *dehkans* dream of defeating so formidable an enemy? And yet, if they had beaten it, the *adirs* of Central Asia, that is, highly fertile soil adding up to hundreds of thousands of acres, would have been transformed into grain fields and orchards hugging the foot of snow-clad ranges. It was this task that the Uzbekistan Experimental Station for Research in *Bogara* Farming in Milyutinskaya set itself twenty-odd years ago.

To give you an idea of the immensity of the task, I must say a word about the freaks of Uzbekistan's climate. Although Uzbekistan lies in the same latitude as California, in January the average temperature there is as low as in Southern Greenland or on Spitsbergen, which are situated 1,800 miles nearer the North Pole than she. In July the average temperature in Uzbekistan is the same as on the Green Cape Islands lying 1,615 miles nearer the equator.

In winter the temperature in Tashkent drops occasionally to 86° F. below zero, and in summer it climbs as high as 104° F. in the shade. Sand and stones in the sun are heated to about 167° F., which means that you cannot lean against a sunlit wall or walk barefoot, and can easily bake an egg in the sand. These variations are due to the fact that Central Asia lies far from oceans, which temper the climate. That is why the foothills, famed everywhere else as the most flourishing spots, have been lifeless and desert in Uzbekistan, along the Tien Shan, Pamir, and Alai ranges.

Another reason is that the Central Asian *adirs* lie between a huge stretch of ice-covered ranges and the sandy Kızıl Kum and Kara Kum deserts. In summer the sun heats the sand, and masses of hot air move continuously from the deserts to the snow-capped mountains looming blue on the horizon. When the wind is so hot as to make breathing impossible, it is called *garmsul*. It burns up everything in its path, even in oases, cutting a black swath through the fields.

A great deal could be said about how the staff of the experimental station in Milyutinskaya worked to make *bogara* farming a success, about the energy and creative skill they put into that battle. Their chief weapon was the new system of land cultivation elaborated by Kostychev, Dokuchayev, and Williams, in which Soviet science takes legitimate pride. Another important weapon was the doctrine of transformation of the nature of plants, founded by Michurin and developed by Lisenko. It enabled Milyutinskaya researchers to raise new, drought-resisting varieties of wheat, barley, and numerous other crops.

Many an article and scientific paper has been written on their inventions and achievements. To satisfy yourself that the results have fully repaid their efforts, you have only to go to the foot of any Central Asian range. You will see hundreds of combines harvesting the grain crop on "counters" where nothing grew a short time ago. You will see dazzling reflections of the sun on the blades of reapers. And on the roads that wind along the mountains you will see strings of lorries carrying cement, timber, textiles, footwear, books, wireless sets, and what not to the new state-farm settlements. Soviet people have brought the *adirs* to life and turned them into granaries of Central Asia. Today Uzbekistan produces her own grain. And it is from the *adirs* of the ranges bordering the valley of the blessed Zarafshan that the republic now gets the bulk of its grain supply.

Not far from the place where those ranges, separated only by a narrow gorge, fall back from each other at an acute angle, stands Galla Aral ("Grain Island"), a most interesting state grain farm of the Uzbek Republic. Galla Aral sprang up not far from Milyutinskaya as an island in the sea of waste *bogara* land. It ceased to be an island long ago; it has become part of a "grain sea," with the rise of numerous other state farms. But Galla Aral still remains the front-ranking farm,

because it is the first to transfer to its vast fields, stretching for 25 miles, the new crop varieties and new agricultural methods that have proved their value in the experimental fields of the Milyutinskaya Station

When you drive through the Galla Aral lands in summer, you pass endless fields of grain

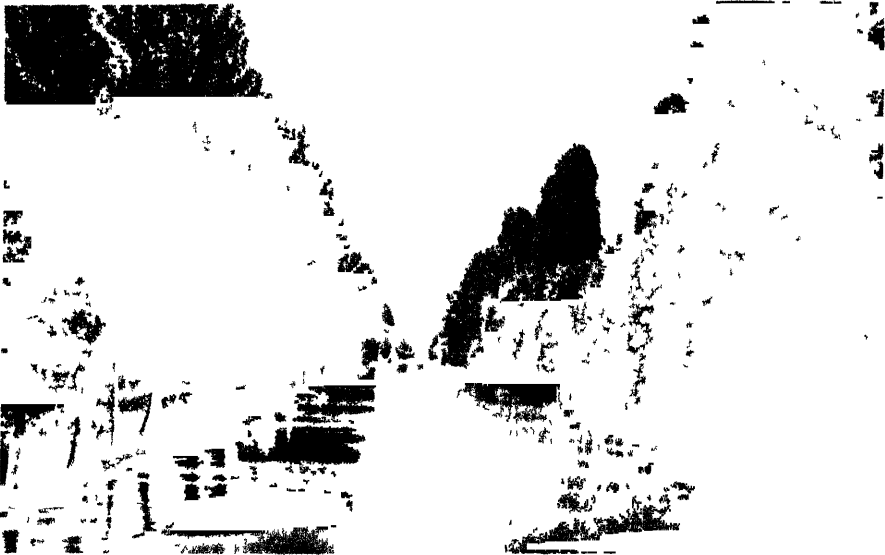
As anywhere else skylarks fly up over the fields and sing sonorously, fluttering their little wings. You will see ricks of lucerne, and a huge field of *bogara* water- and musk-melons, evolved by Milyutinskaya researchers. Another thing you will see there is *bogara* sesame. Uzbekistan is the principal grower of that crop, now that the Uzbeks have learnt to raise sesame on unirrigated land, they will gradually release their oases from it. The first *bogara* vineyards cover hill-slopes and dips near the state-farm settlements, there grow the "rkatsiteli" and "karakishmish" varieties of grape, adapted by researchers of Milyutinskaya. In a large hollow covering an area of 50 acres, thousands of duck splash in the blue waters of a new pond, and now and again you glimpse the black-and-grey back of a carp. Every inch of Galla Aral land is astir with life.

The landscape is brightened and made picturesque by young forests. Not so long ago all attempts to grow trees on *bogara* land failed, the trees perished of drought. But Milyutinskaya researchers succeeded in raising groves of narrow-leaved karagaches, yellow acacias, Bukhara almond-trees, and oleasters. Then groves appeared in Galla Aral too, where the Central Asian Forestry Research Institute started cluster-planting of ash-trees, honey-locusts, ailanthus-trees, and acacias. It was not long before a young forest came into being around the whole expanse of grain-fields. And in the summer of 1948, when the *garmsil* raced to Galla Aral from the Kyzil Kum and blew for two days, that green wall held despite its youth and protected the crops, which did not "burn down" as they had before, but yielded 15 bushels of grain per acre. Then collective farmers from near and far began to visit Galla Aral to see the forest shelter belt with their own eyes. They came, of course, not just to look but with the aim of learning how to plant similar green walls to protect all *adirs*.

An old Uzbek proverb says "If a man has planted even one tree, his name will always be remembered."



In the laboratory at the Red Uzbekistan Collective Farm



The Stalin Great Ferghana Canal



These kids of an improved local breed were photographed at an alpine pasture
in the Jalai Tau Mountains

2. HAIL, SAMARKAND¹

Travel to Samarkand with archaeologists, spend your time there with artists, vine- and tobacco-growers, students, and factory workers, and leave it with fruit-growers. For that is the only way to get the feeling of at least a part of that big and infinitely varied city, a city you can never forget once you have been there.

On the outskirts of Samarkand stands a bare hill, stretching for several miles and overlooking green orchards and fields. That hill is Afrosiyab, the site of ancient Samarkand.

Anyone who has never looked upon Samarkand from the heights of Afrosiyab, who has never admired the pink mountain of rice at the rice-hull factory below, near the foaming Siyab *arik*, or the crowds of pedestrians, cyclists, and horsemen surging to the market-place, who has never rested his gaze on the blue minarets rising proudly above the clay roofs among the trees, or on that part of the city where the roofs of houses lining new thoroughfares glisten in a silvery haze, with the brick chimneys of the city's factories and mills towering above them, as if vying with the minarets in shapeliness—anyone who has never seen that panorama, so full of charm and colour, will be unable to appreciate the name which the inhabitants gave the city in days long gone by and which lives to this day. "*Samarkand saighal-e ruy-e zamīn ast*," which means, "Samarkand is the splendour of the earth."

Emir Timur Guragan, or Tamerlane ("Lame Man of Iron"), styled "Pole of the World and the Faith," that brutal conqueror who razed hundreds of flourishing towns in Georgia, Armenia, Seistan, Southern Russia, India, and Asia Minor, strove to turn Samarkand, the capital of his empire, into the "centre of the universe." His empire, whose shaky economy was based on the plundering of the conquered countries, fell apart shortly after his death. Perhaps nothing would have been left of it but for Ulug-Beg, Tamerlane's grandson.

Under Ulug-Beg, who became the ruler of Samarkand at the age of fifteen, science and art went through a brief but brilliant flowering. He had a passion for science, and surrounded himself with scientists and poets. After completing the buildings which had been started during his grandfather's lifetime, he adorned Samarkand in his turn with

numerous beautiful *madrasahs*, public baths, commercial buildings, and other public edifices. But the most striking memorial of his time is the Astronomical Observatory.

In a Samarkand museum you will find copies of 17th century European prints showing Ulug-Beg seated at a round table in the place of honour, to the right of Urania, the Muse of Astronomy, together with six of the world's greatest astronomers, among them Ptolemy, Copernicus, and Tycho Brahe. An illustrious astronomer and mathematician, he wrote many works, of which the most famed is *Zij-e Gurangani*—astronomical tables and a catalogue of stars that was more accurate than those drawn up by Europeans a hundred years later. It was not without reason that the celebrated Laplace called him "the greatest observer."

A new small structure faced with coloured tiles stands all by itself on one of the hills near Samarkand. It was built by Soviet people as a sort of pavilion to cover that portion of Ulug-Beg's observatory which had escaped destruction. On entering it you go back five centuries. Two rows of steps lead down into the half-darkness of a ditch hewn in rock. The two arcs of a giant quadrant (or sextant, as some scientists hold), revetted with marble slabs and set by the meridian, thrust upwards between the steps. At night, wrapped in a warm robe against the dampness of the underground chamber, Ulug-Beg the thinker and astronomer would mount those steps one by one to watch the stars passing over the quadrant. Several decades after Ulug-Beg's death, Alishev Navoi wrote: "Ulug-Beg stretched out his hand towards the sciences and achieved a great deal, the sky drew near and came down before his gaze."

An inscription made over the entrance of a Bukhara *madrasah* at Ulug-Beg's command is still there, it reads: "It is the duty of every Moslem, man or woman, to enlighten his mind." In the schools founded by Ulug-Beg, young people were taught not only theology but secular sciences—history, geography, and, naturally, astronomy. "Religions melt away like mist, and kingdoms are destroyed; but the work of scientists lasts for ever," he used to say. No wonder that the militant Moslem clergy hated him as fiercely as the militant catholic clergy hated Galileo.

But Ulug-Beg was a king, a grandson of Tamerlane, to whose

empire he had succeeded, and the clergy could neither burn him at the stake, like Giordano Bruno, nor make him publicly renounce his views, like Galileo. So it hatched a plot and used as its tool Abdul-Latif, Ulug-Beg's son, who aspired to power. Ulug-Beg was beheaded by hired assassins sent by his son.

The clergy went further than assassinating Ulug-Beg, it destroyed his observatory and filled its subterranean part with earth, so as to completely wipe out its very memory. But the plain people remembered the observatory throughout the centuries, holding sacred the memory of their eminent scientist and humanist. And when the socialist revolution took place in Uzbekistan, two of our contemporaries, whose names are associated with Ulug-Beg's, brought out, as it were each in his own way, the historic meaning of that change.

Ulug-Beg's life and tragic end inspired Alexei Kozlovsky, a teacher of many Uzbek composers, to create his best opera. Two musical cultures—those of Chaikovsky's and Ulug-Beg's homelands—met and enriched each other in that opera. As recently as a quarter of a century ago this would have seemed impossible. When Rabindranath Tagore, the famous Indian author, heard European singing for the first time, it sounded to him like a strange imitation of the singing of birds. When Nikolai Karazin, a Russian writer, heard an Uzbek song for the first time, he was sure they were bewailing somebody's death. Today there is not a Russian or an Uzbek (except persons hopelessly unmusical) but can find, in the music of the other, beauty that is deeply moving, capable of inspiring a man, of kindling a desire for great deeds.

But the magnitude of the changes that have taken place, their depth and scope, are still better illustrated by the person of Kari Niyazov, a mathematician whose excellent book *Ulug-Beg's Astronomical School* brought him a Stalin Prize. Not so long ago there were only Russian scientists in Central Asia. Kari Niyazov was a pioneer in Uzbek science. Since then hundreds of Uzbek men and women have graduated from the universities of Moscow, Tashkent, and Samarkand, Uzbeks who look upon themselves as direct heirs to the legacy of Mendeleyev and Michurin, Copernicus and Ulug-Beg.

Step into Registan, the Forum of Samarkand, a spacious flag-paved square surrounded on three sides by monumental *madrasahs*. Their

sunlit walls and minarets wear a many-coloured armour of tiles. In contrast, the shadow under the massive arches of the huge portals seems particularly black.

In places, the wall mosaics have crumbled. If you enter the courtyard of Tilla Kari, one of the Registan *madrasahs*, you will see in the *hujras* (former cells in which the students of that Moslem religious academy lived) grey-bearded *ustos*, or folk artists, they are busy making new mosaics to replace those which have crumbled, or painting the delicate pattern of a sketch for some plaster ornament that is being restored. Tilla Kari now houses the restoration studio of the Samarkand Architectural Department, which is in charge of preserving ancient monuments.

Opposite Registan is a cosy public garden whose fresh green shrubs and trees set off the rich, festive appearance of the square. An attractive *chaikhana* bearing Alisher Navoi's name shows between the trees. A portrait of the poet hangs on its awninged façade, and its walls are covered with picturesque panels illustrating his poems.

Nizamaddin Alisher, who signed his poetry "Navoi" ("Melodious"), is the greatest national poet of Uzbekistan. Although five centuries old, his poetry has not faded; it is immortal. What brings it into close harmony with our era is its lightness and airiness, and especially, its main theme, which he championed all his life. That theme is man's labour, the vivifying labour which transforms the world and stands above all else on earth. Alisher's popularity is amazing. There is not a factory worker or collective farmer in Uzbekistan today, to say nothing of intellectuals, who does not know by heart at least several dozen lines of his poetry. Whether engaged in a heated argument or carrying on a peaceful chat, they quote him, to back up their opinions and observations with the authority of the great Alisher. The poet's life is described in a novel by Aibek, awarded a Stalin Prize, in a play by A. Uigun and I. Sultanov that is presented by the republic's theatres, and in a Stalin Prize film produced by Kamil Yarmatov.

But the image of the great Alisher will stand out in particular relief, and the vital force of his poetry will become especially tangible to you, if you enter Registan St., the main street of the former "Old Town," in that late afternoon hour when there is a promise of early coolness,

of relief from the day's heat. It is then that Sadriddin Aini, the dean of Tajik writers, comes out of his little court-yard for his daily stroll. He is one of the few men who had the courage, in the dark period of the emirate in Bukhara, to declare themselves continuers of Navoi's ideas and principles.

The emir of Bukhara had Aini caned, and then, remembering the saying that "a wound inflicted with a cane is curable, whereas one inflicted by words is never effaced," imprisoned him for life to shield his subjects from such words "as might reflect on and harm the grandeur of the emir." The Bukhara Revolution of 1920 set Aini free. The wounds from the emir's caning had healed. He wrote stories and novels—words as "are not effaced"—wrathfully condemning hangovers from the recent past and extolling the man of labour, whom Alisher Navoi had been the first in Uzbekistan to extol.

In Registan St., along which exiled Navoi often walked five centuries ago, dreaming of happiness for the people and detecting its outlines but vaguely in the centuries to come—in Registan St., you see the new life everywhere, it is in the light step of a girl hurrying to the university with her books, in the pink-cheeked boys bending over a chess-board in an open-air *chaikhana*, in the smile exchanged in passing by two engineers, old friends, a smile suddenly brightened by a reflection of the colourful tiles of Registan in the two men's horn-rimmed spectacles. In a street throng you come upon Sadriddin Aini at an hour of the afternoon; he walks along at a leisurely pace, leaning on his stick, and all the passers-by bow to him respectfully; even bicycle-riders alight for a moment and bend their heads as they put hand to heart in salute. And all this makes up a picture illustrating that living bond which through the centuries has linked the people with its great poet Navoi.

3. THE FAME OF SAMARKAND

Samarkand ranks second in Uzbekistan in population and as an industrial and cultural centre. Many of its districts are very much like Tashkent's. Like Tashkent, it has large industrial plants that are flooded with light after nightfall and greet you with the hum of their machines. As in Tashkent's residential districts, cottages show through the green

of trees. As in Tashkent, its stadiums, Palaces of Culture, and parks draw multitudes, its thoroughfares are lined with trees, and *ariks* flow in the cool shade along the pavements. There are streets planted from end to end with karagaches and others boasting rare trees like the sequoia or the swamp cypress, which the people take pleasure in showing to visitors. And as in Tashkent, the plate-glass shop-windows reflect comfortable buses speeding past, trams, motor-cars, and, in the stream of pedestrians, an occasional flower-gul with a basket of roses. In short, Samarkand is a second Tashkent—smaller, of course, but perhaps even cosier.

Looking back upon the remote history of his city, the inhabitant of Samarkand will tell you about its traditions of craftsmanship, of which the Uzbek people are justly proud. He will tell you that as far back as a thousand years ago stirrups, curb-bits, and needles made by Samarkand metal-workers were famed throughout the East. In the eighth century rag paper was invented in Samarkand. Called "Samarkand paper," in the tenth century it ousted parchment and papyrus in the Moslem countries.

"A man without love is an ass, and a man without aspirations is clay," they say in Uzbekistan. To love and to aspire, one has to follow one's course in life with a raised head. But "no sooner does a poor man raise his head than the *bai* picks up a stone." That proverb, born ages ago, did not lose its meaning until after the Revolution. When the Soviet State did away with the *bais*, the people raised their head. And their love and aspirations were offered such tremendous opportunities that they have been able to eclipse, in just over three decades, the achievements and the fame acquired in thousands of years by their forefathers—artisans and *dehkans*, whose aspirations and love were held down by the feudal lords' lash and sword.

Along with the celebrated names of other major industrial cities of the Soviet Union, you may read Samarkand's name on transformers, tension stabilizers, selenium rectifiers, and numerous other items manufactured by the Kinap Works. You will find Kinap instruments in the new 32-storey building of Moscow University as well as in research institutes of the Academies of Sciences of the U.S.S.R., Uzbekistan, Georgia, and the Ukraine.

When walking down the street in a Soviet city in summer, you cannot help noticing, among the well-dressed throngs, women in colourful silk dresses. Some of those silks are manufactured at the Coloured Silk Mill in Samarkand. And when you step into a cosy flat and sit down on an ottoman, you may well find that the rug covering it was made in Samarkand. It may turn out, of course, to be of Turkmen make, but the coloured silk *suzana* hanging on the wall is almost sure to be of Samarkand origin, for it is there that the best *suzanas* are manufactured, in fact, Samarkand *suzanas* are renowned the world over.

Many other things bear the trade mark of Samarkand factories, from bottles of wine (the local winery is the largest in the republic) to preserved fruit, tea, and cigarettes, and from boots and shoes to sweaters and men's suits and so on.

Samarkand's fame is multiplied by the city's scientists. Samarkand is the seat of the U S S R Institute for Research in Karakul-Breeding, a world centre of the science of karakul production. One of the problems the institute's scientists are now working on is how to transform the remotest and least populated parts of the "black sands" pasture zone of the Kara Kum Desert into a large producer of black, grey, brown, and golden karakul.

There is a European legend of the Middle Ages about two pilgrims who smuggled silkworm eggs from Samarkand to Italy inside their staffs. The people of Samarkand, that legend says, kept their art of silk-breeding a secret, but the cunning pilgrims went them one better, with the result that silk appeared in Italy. You recall this legend when visiting the Pedigree Silkworm Selection Station in Samarkand. Staff workers of the station will show you an original incubator for hatching silkworm eggs; although invented only recently, incubators of this type are being used on a growing scale in many republics of the Soviet Union. Besides, you are shown a new valuable white-cocoon breed of silkworm, raised by a Samarkand University researcher named Sati-baldiyev; eggs of this breed have been dispatched to all of our silkworm republics and to some foreign countries—by post, and not in pilgrims' staffs.

Soviet scientists of one nationality have no reason to conceal their inventions from peoples of other nationalities, nor do they do so. Here

is an example. To discuss in detail and to propagate methods worked out by Samarkand researchers, the Lenin Academy of Agricultural Sciences of the U S S R called in Samarkand a visiting plenary session of its silkworm-breeding section in the autumn of 1951, when Samarkand silkworm-breeders had solved quite a number of problems. The session was attended by researchers not only from Moscow and Tashkent but from Azerbaijan, Armenia, Turkmenia, Tajikistan, and Kirghizia.

Samarkand's fame is multiplied, too, by its college and university students: the city is the republic's second largest educational centre. Many are the historians, philologists, physicists, mathematicians, biologists, soil scientists, geologists, and geographers who are proud to say they were educated in Samarkand, that they graduated from Uzbek State University. Every year the colleges of Samarkand supply the republic with new contingents of doctors, agronomists, economists, and teachers.

Samarkand's fame is also multiplied by its artists. At conferences of artists you will meet men and women who design silk fabrics at the Coloured Silk Mill; you will hear heated discussions about the development of Uzbek national traditions and new departures in the art of patterning silk.

In Samarkand, artistic skill has its place even at the Krasny Dvigatel Works. There, in the foundry shop, over whose zinc roof acacias bend their branches, you will find Inayatullah Narzullayev, an expert in artistic iron-casting; you will see him at work in front of a cupola furnace, where the floor sparkles and glitters with filings.

Like his father and grandfather before him, in his youth Narzullayev used a pair of bellows to smelt bronze, tin, and copper over charcoal, and gold in a conical plumbago crucible of his own make. He fashioned rings, saddle-girth buckles, curb-bits, bracelets, and fine *kumgans*—metal jugs with long, curved necks. In 1942 he came to the works, and at once took to cast-iron, because of its plasticity in moulding. He worked for a time in the Urals, where he learnt shaped casting from Russian experts, and returned to Samarkand a highly skilled moulder. Working now at a large plant that produces spares for combine harvesters, complex units for electric stations, and machinery, Narzullayev is in charge of artistic casting.

Many people in Uzbekistan know "Elections to the Republic's Supreme Soviet," for this painting by Zinaida Kovalevskaya, a Samarkand artist, has won general recognition. Its theme is the people, who have become the sovereigns of their State, and it shows a polling station on election day. The room is full of air and sunshine, and is beautifully arranged. You see the unique features and colours of Uzbekistan in the decoration of the room, in the people's dress, and even in the bunch of brightly dyed owl's feathers adorning the *tubeteika* of a boy who has come with his mother. The central figure is an Uzbek woman who is putting her ballot into the box, her face is grave and solemn. For whom is she voting? Perhaps for Bahor Annakulova, a famous worker at the Hujum Silk-Reeling Mill in Samarkand, or for some other front-rank worker, a Communist. The faces clearly show what all those people, and that woman in particular, have come to vote for.

They have come to vote for the government which built in their city socialist factories and mills, schools and colleges, libraries, museums, theatres, and Palaces of Culture, laid out parks and even provided an artificial lake, named after the Komsomol, as in Tashkent. In short, they are there to vote for the Soviet system, for the Communist Party. They all know, from personal experience, how much the Communist Party has done to make the life of the people of Samarkand—like that of all Soviet people—beautiful and comfortable, and worthy of our great era.

4. IN THE ORCHARDS

If you plunge into the life of Samarkand for a few days, you will see that there, as everywhere else in the republic, the main thing interlinking people of different occupations is the battle for high cotton yields. Samarkand's specific colour lies not in that, but in its orchards and fruits.

The Fruit Selection Experimental Station in Samarkand, called "Pomological Garden" by the city's inhabitants, is renowned throughout Central Asia.

Late in February the almond-trees break out into blossom there, just as everywhere around the city. Their white flowers, which seem to be

cut out of paper, make up the first colour of spring. Then comes a month of aroma, of the sweet, heady fragrance of trees in bloom. When travelling by air over any Uzbek oasis during that period, you fancy that white, pink, and reddish-lilac waves are rolling across the earth below and that people have built their little houses only to hold back that sea of colourful, foaming billows.

As you land, the storm of bloom gains in scope; but the daintiness of the colours and the delicacy of the sun-pierced petals make it a transparent, ethereal, unsteady storm. The streaming air pulls petals off the branches. They float away to settle on house-tops, roadways, and the *tubeterkas* and caps of passers-by, they are wafted in through open windows, they cover *ariks* and ponds with a white-and-pink foam. During that month women grumble good-humouredly as they fish petals out of milk or soup. And few are those in Samarkand who go to bed without discovering under their shut-collars a petal—crushed and turning black, but still fragrant.

Fruits start ripening in June, and the process lasts till the end of the year as one follows another. Apricots peeping out from among the leaves like so many tiny moons are succeeded by the bright clusters of sweet cherries, the prim ear-rings of black cherries, and the dusty glow of plums. Little purple-cheeked apples give way to pink-cheeked, golden, lemon-yellow, tea-brown, saffron, brick-red, and scarlet varieties. Pears so transparent you can see their seeds through their skin, mellow side by side with pears that are an uninviting, opaque green; but no sooner have you bitten into one of those than you bend forward in all haste to save your shirt from drops of the sticky, fragrant, sweet juice. Nectarines and downy peaches bask in the sun among blade-like leaves hardly affording any shade. You prise the skin of a peach with your nail and peel it off at a pull, laying bare pulp that melts in your hand. Then there are cloying figs, glossy, aromatic quinces, and hard pomegranates. The pomegranate fruit is so full of the juice fermenting inside it that you think it may blow up any moment. By cutting a hole in the rind and squeezing the fruit with your hand you can drain it like a goblet.

There is a peach in Central Asia called "Saucer-Shaped Fig-Peach." It is not easy to separate the pulp from the stone, and as the peach con-

tains no acid it is cloyingly sweet Michurinists working in the Pomological Garden crossed it with the Elbert peach, which is too delicate to survive the Uzbek winter. Thus a new table variety came into being in Uzbekistan. The early varieties of apple were insipid, so Michurinists evolved a delicious early hybrid by crossing the "Samarkand Early" with the late "Landsberg Reinette." Acclimatization of the better varieties of pear met with great difficulties in Uzbekistan, because they are too sensitive to the summer heat. Staff workers of the Pomological Garden have evolved excellent heat-resisting varieties, which they named "Swallow," "Samarkand Beauty," and "Anniversary."

Nearly fifty per cent of Uzbekistan's apricot crop used to be killed by spring frosts. Michurinists have evolved varieties that blossom late. The Fruit Selection Station in Samarkand takes pride in its "Sovietskaya No 77" apricot, bearing fruit of an excellent flavour. The station's staff workers have created frost- and salt-resisting fruit varieties for the collective farmers who are bringing new land in the Hungry Steppe under the plough.

For centuries local fruit names like *Dil-Afruz* ("Heart's Delight," a pear) were to be heard in Central Asian bazaars. During the last fifty years, high-flown European names like "Louise Bonne d'Avranches" or "Josephine" (also pears) came in. Today attractive new names have appeared, there are peaches called "Start," "Vatan" ("Motherland"), "Farkhad," and "Shirin," apples named "Afrosiyabi," "Registani," and "Zarafshan Pink," and a multitude of other fruits evolved by Michurinist plant-breeders.

This work is only just off to a start. The staff workers of the Pomological Garden still have ahead of them many anxious hours, weeks, and months while awaiting Nature's reaction to their experiments; after all, she may play a foul trick on man, who creatively uses her laws, and repay his painstaking work with some monster of a hybrid. They will know many a failure, error, quest, and hope before their efforts in selecting and perfecting Central Asian fruits reach that natural limit at which—but surely man's creative labour or that wealth and variety of fruits which Michurinist growers are capable of bringing into being can never reach a limit! Even when the deserts and mountains are covered with orchards, he will carry on his labour,

improving and developing, and it will offer him ever further opportunities for quest and discovery

During the past few years Samarkand has become the centre of a remarkable movement started on Stalin's initiative. The Uzbek people, who had never before raised lemons, oranges, or tangerines, decided to lay out citrus groves in all their oases. To stimulate this splendid undertaking, the Government announced a bonus of two tons of wheat to the collective farms for every 25 acres under successfully planted citrus-trees. One after another aeroplanes rushed sets to Tashkent from Georgia. Famous Georgian citrus-growers arrived in Uzbekistan to help collective farmers introduce the new plants. To protect the lemon-, tangerine-, and orange-trees from winter frosts and the hot Central Asian winds that blow in summer, growers raise them in special trenches. Lemons and oranges of local origin have now made their appearance in Uzbekistan's markets.

5 GRAPES

When an Uzbek wants a quick breakfast he usually takes a flat-cake and a bunch of grapes.

In nearly every Uzbek court-yard you will see the reddish-green five-pointed leaves of the vine, with clusters of grapes glowing dully in their shade. Sometimes the vines dangle from poles over a carpeted *supa* or form a hedge linking two or three peach- or plum-trees. When out in the country in autumn—near Tashkent, Feighana, or Andizhan—and driving between clay walls shaded by fruit-trees, you are sure to see, through the wicket or a gap in the fence, gnape-vines growing in the back of an orchard. And every now and then on the road you come across a collective farmer in a colourful robe, carrying a flat basket on his head. There is a tall pile of grapes in the basket, but he does not hold it with his hand; he walks along easily, with a slightly rocking gait, his head raised high and his hands folded behind his back.

The vine holds a place of honour throughout Uzbekistan. But in the vicinity of Samarkand, no sooner have you passed the vast suburban orchards surrounded by clay walls than you find yourself in a seem-

ingly boundless region of collective-farm vineyards. Their shady hedges stretch away from the roads for dozens of miles, and diminutive tractors work in their midst.

Samarkand is the heart of Uzbekistan's grape area and the Soviet Union's raisin capital. "Kishmish," a seedless grape variety favoured by Uzbek collective farmers, has become synonymous with "raisins" throughout the U.S.S.R. Excellent raisins are also made from such grapes as the "Tagobi," "Nimrang," "Taifi," and "Vasarg." As to the "Katta Kurgan," an unusually large and aromatic grape, it serves for making *abjesh*, the best raisins in the world.

In autumn grape trains are marshalled in the Samarkand railway yards. Baskets of fresh grapes are loaded into refrigerator waggons, you see heavy bunches of the delicate "Sultani," dark clusters of the "Chanas," and smoky-green bunches of the "Huseini," named "Lady's Fingers." Transport planes carry "Lady's Fingers" northwards across deserts and Kazakhstan's steppes to Moscow, Leningrad, the Ukraine, the Unals, and elsewhere.

There is a man in Uzbekistan whose name collective farmers of Samarkand respectfully precede with *domula*, meaning "teacher." He is Rizammat Musa-Muhammedov, Merited Master of Viticulture, grape wizard. Everyone in Uzbekistan has heard of him. He lives and works near Tashkent, but his short *Grape-Grower's Guide* has come to be an indispensable reference-book in the villages round Samarkand.

Usually, collective-farm experimenters, those gifted, self-taught specialists, follow on the heels of scientists, transferring the latter's discoveries to their fields. But sometimes the progress of science is checked, which happens when agronomists cling to customary methods, unwilling to do additional research, to break away from routine, indeed, at times people find it hard to part with habit. It is then that collective-farm experimenters take the lead; they shatter petrified notions by their work in the fields, thus urging men of science onwards.

The most talented among the collective-farm experimenters have mastered scientific theory so thoroughly as to become veritable scientists. The oldest of them is Musa-Muhammedov, Stalin Prize winner. A self-made man from the people, he absorbed the experience accumulated by Uzbekistan's growers in the course of thousands of years, and

his work has become part of the very foundations of viticulture in Central Asia. Even after the Viticulture Research Institute was set up in Samarkand and there appeared Uzbek scientists versed in what world science knows about grape-growing, he proved capable of keeping pace with them for a quarter of a century, making headway in the front ranks of science and enriching science year in and year out.

Today the "grape-vine tunnel," in which the vines twine round bent poles, is passing away in Uzbekistan. A new system, suggested by Musa-Muhammedov and using what is called "vertical visored trellises," came to replace the "tunnels" in Central Asia's vineyards. This not only changed the appearance of vineyards but made it possible to bring agricultural machines close to the vines, which revolutionized grape-growing.

And what about Musa-Muhammedov's "theory of substitutes"? It makes up a new chapter in the manuals of viticulture. Scarcely does a vine start ageing when Musa-Muhammedov sets to raising a substitute vine out of a spare shoot. By the time the old vine is ready to be cut off, it has an adult "scion" growing next to it, the young vine replaces the old one on the trellis and yields a normal harvest in the very first year.

Many another novelty has been introduced by Rizamat Musa-Muhammedov into grape-growing technique in Central Asia. That is why grape-growers, researchers, and collective farmers from all over the Soviet Union visit him every summer to see his experimental vineyards. He in his turn has visited numerous vineyards in Moldavia, Georgia, and the Ukraine. No wonder that there are now a countless number of boys around Samarkand whose fathers named them Rizamat after Musa-Muhammedov, dreaming that their sons might become outstanding grape-growers.

Musa-Muhammedov has many followers. Even Shadi Bobo Hakimov, the oldest grape-grower in Samarkand, whose pupils have acquired country-wide fame by their bumper harvests, modestly calls himself no more than a pupil of Musa-Muhammedov's. Shadi Bobo Hakimov is an experimenter and a brigade-leader on the Kirov Collective Farm in Komsomol District, a renowned grape-producing farm where eight growers have won the title of Hero of Socialist Labour.

They include Jura Khojayeov, a team-leader who achieved the unprecedented yield of 12 tons of grapes per acre

In his experimental plot Shadi Bobo Hakimov once had the great fortune to witness one of Nature's most fascinating phenomena

We are no longer surprised when we come across a plum-and-apricot hybrid or some other fruit never seen before, we know it is a result of the work of Michurinist plant-breeders. We know that the Michurinists have learnt to hurry up Nature. Today man creates within decades a variety of cereals or fruits that it took Nature hundreds of thousands of years to create

But where did the first apple, peach, or pear come from?

I remember that we pupils of Przhhevalsky School in Tashkent once put that question to our natural history teacher. He spent a whole hour telling us how biological processes in nature had prepared the conditions for the origin of new plants, how quantitative changes had brought about a qualitative change, a leap. In short, he told us what we already knew from our text-books. And yet we could not, hard as we tried, picture to ourselves that there had been a day in the history of the Earth when an apple started swinging on a bough, although no apples had existed the day before. You see, man is made that way, he will not believe anything till he is shown it.

But Shadi Bobo Hakimov chanced to see, with his own eyes, such a natural leap; an occurrence ordinary enough for Nature, which has existed millions of years, it is unusual for man, who hardly lives a hundred years.

One day, when Shadi Bobo Hakimov went to his brigade's vineyard, where there are both young and centennial vines, he noticed that on two *kishmish* vines (*kishmish* is a very productive, very sweet, and very small variety of grape) berries as big as plums were ripening. Knowing those vines and having gathered more than one harvest from them, he was astounded at what he saw, not less than if he had come upon a melon, say, the size of a calf.

From that day on, grape-growers and agronomists began pilgrimaging to the two vines. When the grapes were ripe, they turned out to have retained the qualities of *kishmish*, that is, its high sugar content and seedlessness. In autumn both vines were carefully dug out and

transplanted to the experimental field of the Viticulture Institute in Samarkand. The following year they yielded berries just as large. Thus a new, mammoth variety of *kishmish* grapes came into being in Uzbekistan.

In a few years the new variety will move from vine-nurseries to collective-farm vineyards. Then it will be sold in the markets, and everybody will get used to it. Children, thinking that it has been there from time immemorial, will ask their teacher, "Where did this kind of *kishmish* come from?" When he tells them that it arose not long ago as a result of quantitative changes having passed over into a qualitative change, they will no doubt be sceptical. They themselves, when they are grown up, will hardly expect to witness a natural leap like that. But what they will do is hurry up Nature, intervene in the operation of her laws, they will become scientists.

You can easily see preparations for that work on any grape-growing collective farm near Samarkand. Visit the Kirov Collective Farm, for example, and drop into its radio centre, its electric station, club, and clinic, its laboratory and its ten-year school. All these are staffed by local specialists; only the doctor employed at the clinic is a "stranger" in so far as he was born and grew up elsewhere in the republic. In the laboratory, experimenters are at work on twenty-five grape varieties that are under cultivation. In the school-house you will see collective farmers' children bent over text-books of botany and physics, trigonometry and Darwinism.

What will those children become? It does not take much imagination to guess that the Rizamats as well as the Saids, Rashids, and Kayums, and their other school-mates, will all become "Rizamats," that is, people versed in science.

6 MIYANKALEH VALLEY

As your train rolls along westwards from Samarkand to Katta Kurgan, a ridge of barren, ash-grey mountains accompanies you in the distance on your left. The road-bed, dark with oil stains, crosses a steppe that is the same ash-grey colour. But even from afar you can see, round the small stations along your way, mountains of cotton, so daz-

zing-white in the sun you cannot look at them without blinking, and so high they dwarf the station buildings. Where do they come from? Where do the bunches of roses and peonies at every station bazaar, the heaps of tempting melons and tomatoes and grapes come from in this desert region?

Look closely at the steppe on your right. Nearby, it is slightly hilly and a bit lighter in colour. Farther off, a shadow seems to run across the plain, bordering the hazy horizon. The flourishing Miyankaleh Valley, invisible from your train, stretches in a narrow band below that shadow.

Miyankaleh is a long, populous oasis called the "Island of Happy Settlements." It is perhaps the most ancient, and very likely the most flourishing, oasis in Uzbekistan. It stretches for some 60 miles along the Zarafshan, to be exact, the river diverges, where Miyankaleh begins, into two branches named Kara Darya and Ak Darya and separating the oasis on both sides from the boundless steppeland.

When travelling across Miyankaleh, amid cotton plantations and orchards, you see, oftener than in any other Uzbek oasis, the vast rectangles of rice-fields. Surrounded with earth embankments and filled with water, they form something like terraces. You see an aeroplane overhead, it flies at low altitude over the flooded fields, feeding the crop with additional fertilizers. It may turn out to be an aeroplane of the Ministry of Public Health, though, fighting the larvae of the malarial mosquito, the chief enemy—and a formidable enemy indeed—of collective-farm rice-growers.

Malaria was always one of the most serious diseases in Central Asia, where it took numerous forms. It used to devastate entire districts and was particularly violent in Miyankaleh, because of the rice-fields. The medical workers of Uzbekistan have launched a large-scale anti-malaria offensive, headed by the Uzbekistan Institute of Malaria and Medical Parasitology, Samarkand.

In Samarkand, as elsewhere in the Soviet Union, they raise the gambusia, a small fish that feeds on mosquito larvae, and stock lakes, rivers, and reservoirs with it. Besides, they spray swamps and floodlands with chemicals from aeroplanes. Generalizing the experience of Uzbekistan's 100 malarial stations and 450 tropical centres,

Samarkand researchers invented a considerable number of curatives and methods of combating malaria. The wealth of experience they gained has enabled them to teach doctors and researchers of Moscow and Leningrad, Tbilisi and Kiev.

One of the most interesting pages in the history of combating malaria was written by Moscow medical researchers, pupils of Academician Pavlovsky. In the rice-fields of Central Asia, this simple and yet bold idea occurred to them. Why not try to empty those fields of water before malarial mosquitoes start out of the larvae, so that the merciless Central Asian sun should destroy the larvae?

They proposed the idea, but experienced collective-farm rice-growers and agronomists said that the sun would destroy the rice crop along with the larvae. Still the men from Moscow did not give up. They began studying agronomy, firmly resolved to shatter certain agrotechnical practices so as to save tens of thousands of human lives. They found allies: several collective farms made their fields available to them for experiments, and it was there that the doctors won. In the rice-fields of Miyankaleh, as of the whole republic, collective farmers learnt to kill malaria larvae with sunshine, without killing the rice crop, by draining the fields and then reflooding them.

A few years later that outstanding achievement was clinched by researchers in rice-growing. They evolved in the fields of the Uzbek Experimental Rice Station new high-yield varieties which require little water. Thus the health protection work started by doctors acted as a powerful stimulus to researchers engaged in quite a different branch. Yes, things in life are interconnected, and the winners in science are, in the long run, those who do not fence themselves off from life.

Zarafshan means "Sower of Gold." Why this name? If you should ask the Tajiks who live along the upper reaches of the river, in the mountains, they would tell you that the Zarafshan carries grains of gold in its silt; the prospectors of today use drags to wash the gold, while their fathers and grandfathers set sheepskins against the stream to catch gold grains in the wool. But the Uzbeks who live in Miyankaleh would say something different. They would tell you that every drop of Zarafshan water may be likened to pure gold, for it changes into full-

weight grains of rice, the juice of grapes or pears, or "white gold" (cotton).

Cotton plantations constitute the pride and fame of Miyankaleh's collective farmers. You see the word *pakhta* ("cotton") along the roads—written in charcoal on the whitewashed walls of *kishlak* public buildings, you also see it on red flags waving on poles set up at the fields of front-rank brigades, and on strips of red bunting fastened to lorries. There is a district in Miyankaleh called Pakhtakor which means "cotton-grower."

Miyankaleh's cotton centre is the town of Katta Kurgan. The vineyards on the outskirts of Katta Kurgan and its tree-lined streets are very much like those of Samarkand, the flat-roofed little houses in the lanes of its former Asiatic part are built as in Samarkand, and the inhabitants' *tubeteikas*, embroidered with large leaf-patterns of various colours, remind you of those made in Samarkand. And yet Katta Kurgan is more like a Ferghana city, such as Kokand or Namangan. Here, too, the dominant colour in the streets is white—the colour of cotton, here, too, white mountains of cotton rise above factory walls, and the yards of oil mills are piled high with pyramids of cotton-seed, also white but covered with tiny curls, as if wrapped in foam. One of these mills is the largest in the Soviet Union and the first plant in Uzbekistan where oil is obtained from cotton-seed by chemical methods, without the aid of presses.

But it is not to its mills that Katta Kurgan owes its greatest fame. Millions of Soviet people came to know its name thanks to the Uzbek Sea, a colossal reservoir built on the outskirts of Katta Kurgan. That is one of the largest construction projects of our time.

7. THE UZBEK SEA

East of Samarkand, amid the peaks of far-away Kuhistan's ranges, there is a huge glacier, sprawling like a giant petrified octopus. It gives rise to a multitude of streams, which merge to form a majestic river. On hot summer days their incessant gurgle mixes with the low, menacing rumble of broken rock tumbling down into the glacier through thousands of crevasses. That is how the Zarafshan is born.

About 440 miles to the west, amid sand dunes in the Karakul Oasis, lies a tiny cotton-field. A collective farmer with a silk scarf tied round his waist, walks along its edge. Using a *ketmen*, he carefully channels water into one furrow after another. The water reaches the end of the furrows in a thin, bubbling stream and is absorbed to the last drop by the soil. That is how the Zarafshan ends.

In ancient times the inhabitants diverted all the water of the Zarafshan into canals. The river ceased to be a tributary of the Amu Darya, and three flourishing oases sprang up along its banks. The first was Miyankalch, with Samarkand lying at one of its extremities, and the vineyards of Chatircha at the other, beyond Katta Kurgan. The second was the Bukhara Oasis, poorer in water, but colossal too, and famed from of old. The third was the Karakul Oasis, the poorest in water and the smallest.

Samarkand and Bukhara, two great cities of Central Asia, vied for fully twenty centuries. Now Samarkand would become the capital, and its people would spread out, building new settlements and digging canals, while the orchards around Bukhara withered for lack of water. Then Bukhara would gain ascendancy, and its rulers would send *mirabs* to Samarkand with the command to supply more water to "noble Bukhara," and many vineyards near Samarkand and Katta Kurgan would turn into waste lots covered with something like a crust of dry mould.

After the October Revolution Samarkand and Bukhara became regional capitals of the Uzbek Republic. At first both regions had to subsist as before on a short water ration. Despite the extraordinary fertility of the soil, collective farmers on the cotton plantations near Katta Kurgan gathered half as much as the Ferghanans, because of the water shortage. Then Zarafshan collective farmers began building new canals. But work to put a real end to the shortage ration was started in 1941, when a hundred thousand collective farmers of Bukhara and Samarkand regions responded with enthusiasm to the call of the Communist Party to build, on the outskirts of Katta Kurgan, one of the largest reservoirs in the world. They set out to add 24,000,000,000 cubic feet of irrigation water to that supplied by their "gold-carrying" river.

But how did Soviet engineers expect to fill that reservoir? The steppe there is utterly devoid of rivers, brooks, or springs. There was the Zaraf-

shan, of course, but every drop of its water was needed badly, in fact, a tree planted near an *arık* would rob of water another tree growing lower down along the same *arık*. How was it possible under the circumstances to take from the Zarafshan so much as one cubic foot of water, to say nothing of 24,000,000,000 cu ft?

And yet that could be done, the Zarafshan was precisely the river to supply the six hundred and fifty million cubic metres of water. But to make this clear to the reader, let us make an imaginary trip far to the west of Katta Kurgan, to the lower reaches of the Zarafshan, to the little Karakul Oasis surrounded by a great expanse of shifting sands.

Karakul means "Black Lake." A vast lake *had* existed there once, with its ring of thick vegetation, it appeared from afar as a dark spot against the yellow background of the desert. Ulug-Beg used to hunt game at that lake. During the following centuries the lake dried up considerably and broke down into a chain of basins that were strikingly blue amid the dunes. In the winter months those basins were replenished, as the whole Karakul Lake had once been, with Zarafshan water; in winter the river is low, but no water is diverted into the *ariks*, which the *dehkans* clean of silt in preparation for spring.

The ambitious task tackled by the Bolsheviks was to remerge the basins into a single lake, shift it far away from the desert up the Zarafshan, to a colossal natural depression near Katta Kurgan, and build a huge earthen dam to enlarge the depression. Water from the Zarafshan was to be accumulated there in winter and then, in summer, sent back into the gold-bearing Central Asian river. The task was set by Vladimir Ilyich Lenin as early as 1919, when he signed a decree on the organization of irrigation work in Turkestan, providing not only for irrigation of the Hungry Steppe but for the building of a reservoir on the Zarafshan.

And so, builders arrived at the Zarafshan. Small camps made up of tents, sheds, dug-outs, rush huts, provisional stores, and kitchens sprang up here and there on slopes and in the steppe, camp-fires flared in the hollows. Along the route of the head-race, tens of thousands of people began digging the dry ground with their *ketmens*. It was then that the fame of Mavlan Gafurov, the best *ketmen*-worker at the project, spread throughout the republic, he was nicknamed Mavlan Palvan, that is, "Mavlan the Hero."

The war interrupted work on the Katta Kurgan Sea. In 1941 the collective farmers had time enough to complete only the head-race and the off-take with their hydrotechnical installations, and a fourth of the reservoir. When victory came, scientists returned from the fronts to their unfinished theses, and writers to their unfinished narratives, the collective farmers of Zaiafshan Valley got back to their unfinished sea. They saw that rushes had grown up on its shores during the war years, sportsmen came to the sea to shoot duck, and Katta Kurgan boys went fishing there. In 1946 thousands of builders took up work once again round the Katta Kurgan reservoir.

But this time human voices were drowned by the clang of excavators, the rumble of crawler tractors and concrete-mixers, the roar of heavy lorries, bulldozers, conveyers, compressors and gravel-washers, and the whistles of trains rushing to and fro along new branch-lines. The smell of sun-baked earth and the scent of lamb fat coming from collective-farm kitchens mixed with the smells of coal and petrol. Machinery had arrived on the building site.

All the structures of the Uzbek Sea bear the stamp of creative thought and technical daring. Science was active there, it helped the construction job at every step, and was itself greatly enriched. It is safe to say that the building of the Uzbek Sea became a kind of academy for researchers and specialists.

The following example, while far from being the most interesting from the point of view of technique, is perhaps the most striking for the average reader.

For a long time dust made work difficult for the builders. It would envelop the entire site—the openworks, the roads and the dam—in a vast cloud, the finest Central Asian loess dust, it whirled up at the slightest puff of wind. Light as it was, it sometimes hung in the air for weeks on end. Lorries would make their way slowly through it, honking continuously so as not to collide with one another. Not only the drivers but all building workers were handicapped by the blinding dust.

Engineers, building workers, and drivers all tried hard to find a way of defeating the dust. Text-books had nothing to say on that score, because their authors had never had anything to do with loess soil consisting of minute particles. But the builders of the Uzbek Sea defeated

the dust—simply and ingeniously. They dug basins in the hills, amid the openworks, and pumped large amounts of water into them. The water was sucked in by the earth and moistened it. Then *ketmen*-workers and excavator-operators removed the moist earth, and lorries carted it away along the roads. The earth was not just haphazard moist but contained a strict percentage of moisture, watched over by staff workers of the soil laboratory. Before that, the dam builders had had to moisten every layer of earth before rolling it hard, because that was a requirement of construction technique. The process of moistening and working every layer of earth used to take approximately twenty-four hours. Now that the earth was brought to the dam in a moist state, the work went three or four times as fast as before, and the dust-cloud over the site melted away, leaving the air fresh and clear. Thus a new page was written in the manual of hydraulic engineering.

The building site was a vast school for the collective farmers working there. Hundreds became drivers, skilled mechanics, and excavator-operators, the latter trade appealing to the collective farmers more than any other. The dam kept growing year by year, and finally the sea took up the space assigned to it.

The Katta Kurgan Sea has watered many new tracts of land, and will water many more. What an event the coming of water is for the Uzbek collective farmer, could best be told by people who saw water come in July—when the fruits of the second tier of the cotton-plant set—from the Uzbek Sea to the fields of Bukhara which had suffered for centuries from lack of water. The people in the *kishlaks* exulted. With their hands they scooped water out of full *ariks* and drank it. For water means happiness to the Uzbek, when there is no water, his world is narrow and sombre, but when water flows in the *ariks*, his heart rejoices.

8. MORNING IN A CITY

As soon as you enter Bukhara, you find yourself in one of its broad, bustling thoroughfares lined with new houses. But you have only to turn aside from it to get into a maze of narrow streets. In former times nearly one fourth of the city's area was occupied by cemeteries, while *madrasahs*, mosques, the emir's palace, and the bazaar took up another

fourth There was a shortage of space within the limits of the "Holy City," and so the artisans of Bukhara had to huddle together their mud-huts, topping them by a second tier of similar hovels That is why the narrow streets look even narrower than they actually are, the colourful streams of people moving along them as in the passages of a house.

Here and there in the maze of Bukhara's side-streets you will see the glittering plate-glass windows of new hairdressing saloons, bakeries, and other shops Here and there rise blocks upon blocks of new stone houses The finest of the buildings put up in recent years is the Palace of Soviets And everywhere the heavy lancet arches of the portals of ancient *madrasahs* and mosques show above the house-tops Some of the portals are faced with coloured tiles that glisten in the sun, others with massive slabs of grey porous stone, between which tufts of dry grass stick out Higher up, minarets and blue domes are outlined against the sky, and on some of the domes you can see huge grey nests which house families of storks every spring

Sarafon, Zargaron, and Toki Tilpak Furoshon (three rosettes of grey domes, with a central dome in each rosette) roof the crossings of Bukhara's main streets. They have been preserved as architectural memorials Erected in the 16th century, they were once centres of commerce. Under them today passes the bustling life of large street crossings, you will see a lorry hauling flour to a mechanical bakery rumble by under the stone vaults, a Pobeda car taking a doctor from the clinic to the home of a patient, or camels loaded with bales of cotton, striding along in single file on their bony legs And in one of the niches you may see a militiaman taking advantage of a lull in order to have a *piyala* of tea

Let no one be surprised at a Bukhara militiaman drinking tea while on duty. In Uzbekistan tea is not a whim; there, people need it as much as they do air. Tea restores to man's body the moisture he requires in order to withstand the heat Recently A. Sadikov, a well-known Tashkent physiologist, completed a sizable research work on the water-and-salt metabolism indispensable to the human body in Central Asia. It follows from his study that man there must either perspire or wither like a tree. That is why there are from one to three *chaikhanas* at nearly

every cross-roads in Uzbekistan's villages and towns, and why samovars are in constant use on canal construction sites

In Bukhara a *piyala* of tea means something more. It was not without reason that in our days the Bukharans set up in their city an unusual and seemingly absurd monument to the *piyala* of tea. This is the water-tower overlooking Registan, the main square, a framework structure rising higher than the minarets, it is utterly out of keeping with the impressive ensemble of ancient buildings and the beautiful new buildings of the theatre and the Executive Committee of the Regional Soviet, showing white through the trees. Indeed, on seeing the tower for the first time, you cannot help exclaiming, "What on earth made those Bukharans set it up here of all places! Couldn't they have found a less conspicuous site?"

But anyone who drank tea in Bukhara some twenty years ago, tea with an unforgettably foul taste that the strongest brewing failed to overcome, will readily understand why the Bukharans proudly raised their new water-tower in the city's most picturesque square.

To make the acuteness of Bukhara's former water shortage quite clear, I should mention the Shahrud, the *hauzes*, and the water-carriers. Hydrogeologists will tell you that present-day Bukhara stands on a 45 ft. elevation made up of the strata of preceding ages. You can see that with the naked eye too, just by looking at the Shahrud, the main canal running through the city. Even though the Bukharans have rebuilt it innumerable times, raising it higher and lining it with stone, it flows far below street level as though at the bottom of a crevasse. Water is scanty in it. And since water was always a problem in the lower reaches of the Zarafshan, the Bukharans built eighty-five *hauzes*, or stone reservoirs for storing water.

The *hauzes* teemed with all sorts of virulent bacteria, and water-carriers supplied the city with diseases along with water. If only the tombstones in Bukhara's cemeteries could talk, they would tell you that most of the people buried under them died of those diseases, not of old age or bullets or dagger-wounds.

No wonder that when the first jet of water shot into the first jug from the first street hydrant, bubbling gaily and glittering with spray, the Bukharans took it as a happy event. No wonder, either, that they set

up their water-tower in Registan. For the waterworks meant the end of diseases and foul tea, and the beginning of the blessed whispering of tree-leaves in orchards.

A public garden appeared on the edge of Registan, opposite the new water-tower, and gardens were also planted in other parts of the city. A vast recreation park—one of broad-crowned trees, one full of the chirping and warbling of birds—arose where a cemetery had been, moved by then out of the city. A new lake, clear and limpid, as if pierced by sunshine, sprang up in the centre of the park amid stone-clad shores. Swarthy youngsters splash in it on hot days, staying in the water for hours and joining their shrill cries to the songs of the birds.

In Bukhara's recreation park there is a highly interesting old monument which American millionaires, greedy for all kinds of curios, once tried to buy. Those men are used to laying their hands on genuine sphinxes in Egypt, and on rare statues and even entire temples in Greece. Disregarding the national pride of the peoples who own those treasures, they tear them from the native soil to ship them to the U.S.A.

Surely those millionaires are no better than Tamerlane, who carted to his capital whatever he could from all over the world. From Brusa, for one, he brought to Samarkand bronze doors bearing the images of the apostles Peter and Paul, doors finished in enamel and a most delicate pattern of inlaid gold and azurite. They were so high one could have gone in through them on horseback. Tamerlane ordered them attached to the tent of Bibi Khanum, the first among his wives.

Naturally, the Uzbeks refused to sell the monument to the Americans, to whom they made it clear that dealing in historic monuments was incompatible with the national dignity of a civilized people. It proved rather difficult, however, to get their visitors to grasp the idea fully, and if the Uzbeks did not use any sharper language, it was only out of civility. But when the Americans had left, there were many people in Uzbekistan who said in astonishment, "A fine lot they are! Thinking the world's just a big bazaar."

The monument in question is Ismail the Samanid's mausoleum, one of the most ancient in Central Asia. It is neither large nor richly ornamented. It is built of ordinary yellow bricks. And yet it is perhaps the most charming monument of Central Asian architecture. It owes its

noble elegance and airiness to the design on which its walls are built, a design of truly fascinating beauty. Bricks here served as material for creative work, the monument is unique in the world, and its unknown builder showed that a genuine artist can create a masterpiece even out of ordinary bricks.

In the 10th century, under the Tajik dynasty of the Samanids, Bukhara went through a most interesting period of its history. In describing Bukhara—its paved streets, covered bazaars and caravanserais, geographers of the time tell us of libraries too, among which the Samanids' Library was the most famous. Rudagi, the greatest Tajik poet, frequented it. Abu Ali ibn-Sina, a brilliant Tajik scientist of manifold talents, known in Europe by the name of Avicenna, spent there some of the happiest days of his youth.

In 1952, on a proposal moved by Frédéric Joliot-Curie, the World Peace Council passed a decision to observe the 1000th anniversary of ibn-Sina's birth on a large scale in all countries. Scientists of various countries made stirring speeches at popular assemblies, thus demonstrating the great fraternity linking men of science the world over.

Of course, ibn-Sina's birth anniversary was observed also in Bukhara, his native city, where, besides Ismail the Samanid's mausoleum, there is a building associated with ibn-Sina's name. It is a *madrasah* erected quite recently—at the beginning of this century. Today a fountain gushes in the centre of its cosy flagged court-yard adorned with plaster statues and dominated by the stillness peculiar to libraries. And a library it is, too, one of the 1,400 in Uzbekistan, the republic's second largest (after the Tashkent) depository of oriental manuscripts—the Abu Ali ibn-Sina Library.

A big portrait of the renowned Bukharan hangs in the reading-room, where you may hear only the slight cough of people clearing their throats and the rustle of pages being turned. Here students of the vocational schools and institutes of present-day Bukhara prepare for examinations. Young researchers, too, frequent the library. You may see one of them bending over a book by ibn-Sina himself, such as the famed *Al-Qanun* or *Hayy ibn-Yaqzan*, a literary-philosophic work that ibn-Tufail used as a basis for his first adventure novel.

For a thousand years ibn-Sina's (Avicenna's) name wandered round

the world, and least of all was it mentioned during that period in his native Bukhara, which had become a scene of bitter strife among feudal lords. After the Samanids' time, the city had no library worthy of the name, ignorance, savagery, and fanaticism were the Bukharans' lot throughout ten centuries. It has acquired such a library only now, when Soviet culture has brought here books by Marx, Engels, Lenin, Stalin, and other world geniuses. This new, universal culture has restored to the Bukharans their great countryman as well.

The city wall—a memorial of the recent feudal past—still stands in Bukhara, but the roofs and chimneys of new, socialist factories tower above it.

Bukhara's factories have never seen lock-outs, strikes, or strike-breakers. The Uzbek language even lacked words like *strike*, *strike-breaker*, *lock-out*, *crisis*, *proletariat*, and many others born of capitalism. When, as they climbed to the heights of socialist culture, the Uzbeks studied the history of capitalism in other countries, they had to borrow those words from the Russian vocabulary.

Both the Bukhara scene and the Uzbek language thus clearly illustrate what scholars usually express in the following words: "The Uzbek people skipped over the capitalist stage of development," that is, they passed from feudalism direct to socialism.

Every Uzbek of the older generation stepped from feudalism direct to socialism. Just look, for example, at the biographies of Uzbek men of culture, science, and art.

Mukhtar Ashrafi, the composer, was born in Bukhara in 1912. The musical evenings given by his father, a folk singer and musician, used to draw many an enthusiast of Bukharan classical music. Those were men who kept a watchful eye for precise rendering of the *usuls*, as canonized rhythmic formulas are called. Everything had to be performed exactly in the way it had taken shape through the centuries; not a sound could be changed; anything novel was taboo.

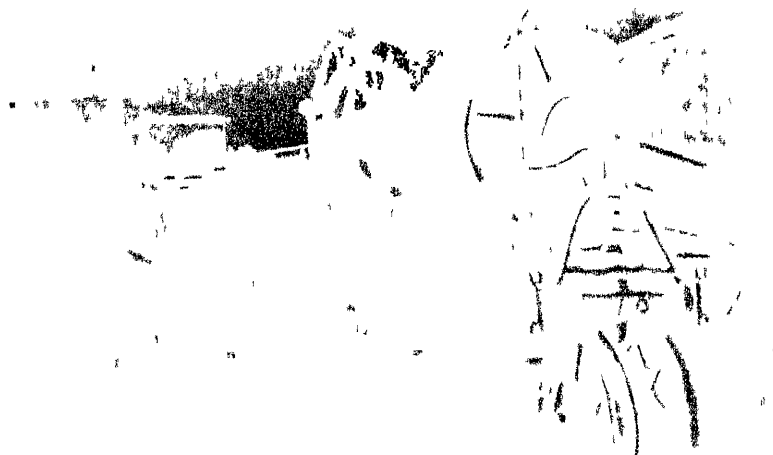
Four decades have passed since, and Russian classical music—by Glinka, Chaikovsky, Scriabin—rings out in concerts at the city theatre of Bukhara. It rings out from thousands of loud speakers in the city's streets and squares and homes. It is performed along with Mukhtar Ashrafi's "Heroic Symphony." In that symphony, for which the com-



Uzbekistan's collective farms produce fine melons



Sowing is under way on the Galla Aral State Farm



An electric cultivator at work in a cotton-field

poser was awarded a Stalin Prize, Uzbek folk music is raised to the level of modern musical culture. The people's spirit is reflected in the melody of the symphony and in the contrast between the first rhythm, which is complex and uneven, and the measured second rhythm. Its modernness lies in its genuinely symphonic quality, in the way the leading theme is joined by the second theme, which is melodious, lyrical, and feminine, the way it is rendered first by the flutes, the English horn and the clarinet, then by the strings and wooden wind instruments, the way the French horns and violas bring it out later against a troubled rhythmic background, the way it swells up, and the way it dies down.

Thirty-odd years ago Nabi Ganiyev, today a well-known film producer, was brought to a *maktab* by his father.

"His bones are mine, and his flesh is yours," said his father to the mullah. "Teach him as you like, but if he doesn't grow up to be a real Uzbek, a faithful servant of Allah—" He paused, and added, "I'm a butcher. I've slaughtered hundreds of sheep in my life. I shouldn't find any difficulty in killing a boy."

A few years later, in 1921, when Ganiyev ran away from home to Moscow to study at the All-Union Art Technique Studios, the imam demanded that the father publicly curse his son in the district mosque. But by then the Revolution had begun changing the old man's mentality.

"I hope my son won't disgrace me," he said to the imam.

He refused to comply with the demand, although that meant the doors of the mosque would be closed to him from then on and his kinsfolk would shy away from him, which was the severest punishment for the religious old man.

Two years later Nabi Ganiyev set out for home during his summer holidays. On arriving in Samara (now Kuibyshev), he had his head shaved at the station, and when he returned to the carriage he took off his suit and stowed it away in his suitcase together with his cap, putting on an Uzbek robe and a *tubetelka*, so as to make his old father's position easier by his orthodox appearance.

Several more years passed, and then Ganiyev started filming "Tahir and Zuhra" (after a well-known folk tale of Bukhara).

"Tell me frankly," his father said to him one day, "will you succeed, will you become a prominent Soviet film director?"

"What if I don't?"

"Then you'd better get a fresh training and become an engineer or a doctor."

These three episodes come from the life of a single person, yet they belong to different eras. And those eras—feudalism and socialism—are separated by only thirty-seven years of Soviet rule.

9 IT HAPPENED IN BUKHARA

The brotherhood and friendship linking the peoples of the Soviet Union manifest themselves in innumerable ways. They were evidenced with particular warmth in Uzbekistan during the last war—at the time when trains carrying children whose parents had been killed in battle or in fascist air raids on peaceful cities began to arrive at Central Asian stations.

"A home with children is like a bazaar, and a childless home is like a *mazar*," says an Uzbek proverb, in which "bazaar" stands for liveliness and gaiety, while *mazar* means a tomb. Every nation has its traditions. One of the finest traditions of the Uzbeks, a tradition kept up for centuries, is an extraordinary concern for children. In Uzbekistan the child is the focal point of the family. It is a common sight to see a *dehkan* spend all his free time with his children. As to childlessness, it has always been considered the greatest of misfortunes.

But one's own children and somebody else's are different things. When the first train brought to Tashkent children who had been picked up in the streets of blazing cities, it did not occur to anyone that their arrival would become an event of significance for the whole republic. At first it was decided to set up a network of the usual children's homes for them. But hardly had the first column of boys and girls left the station and started off along the streets of Tashkent in pairs, holding hands, when scores of Uzbeks asked the Government to entrust little ones to their care. They wanted to take the children into their own families, to adopt them, bring them up, educate them. They made their request so forcefully that there was no refusing them.

A few days later, thousands of people in Tashkent, Andizhan, Karshi, Bukhara, and everywhere else besieged the railway stations, where

trains kept arriving with children. Factory workers and collective farmers, single men and unmarried women as well as couples with large families were eager to adopt three to five children—as many, in fact, as they could get. It did not matter in the least whether the children were Russians or Ukrainians, Lithuanians, Karelians, or Jews. The important thing was that they were Soviet children. The disaster that had befallen them moved the whole Uzbek people.

Blue-eyed, fair- or red-haired and snub-nosed boys and girls appeared in Central Asian court-yards side by side with black-eyed Uzbek youngsters. Many books will yet be written on how the relations shaped in the new families, how the first feeling of deep pity for the orphaned children gradually gave way to and became, in the course of a full and varied life, a strong affection and love. In this book I shall tell you only one story, which I heard in Bukhara.

There is a district in the central part of Bukhara where new four-storey blocks of flats rise in straight rows. In one of those houses there lived a young Uzbek couple. He worked at a karakul-dressing factory, and she kept house. He was a hard-working young man who loved his wife dearly, she reciprocated him in full, and was attentive and thrifty. In short, their happiness would have been complete if it had not been marred by the absence of children. During the first two years of their life together they often talked about the children they dreamed of having. They saved money, because if a son should be born, they must not disgrace themselves by failing to mark the event by a big *tor* (celebration) and to invite to it, according to custom, all their relatives, friends, neighbours, and fellow-workers. When they learnt that there would be no children, they stopped discussing the subject to spare each other's feelings.

Perhaps the couple (her name was Muabara, but his has slipped my memory) would have got used to the idea, would have resigned themselves to having no children—but in Uzbekistan constant questioning by sympathetic neighbours is inevitable.

Then the war broke out. After seeing her husband off to the army, Muabara gave way to her grief in solitude. Then she took up work in the Molotov Handicraftsmen's Co-operative, which carried on the traditions of Bukhara's famous embroiderers in gold. In her leisure hours

at home, she would knit woollen socks and warm sweaters for Soviet soldiers, as all women of Bukhara did at the time. She anxiously followed the communiqués issued by the Soviet Information Bureau, and whenever she got a letter from her husband—in one of those triangular stampless envelopes that soldiers used—she hurried to her neighbours to share her joy with them.

One day an abrupt change occurred in her life. On that day her neighbours saw her run panting into the house, then run out, clutching her savings bank-book which had the money laid aside in case a son should be born. In the evening she brought home a tow-haired girl of six. Women from all over the house gathered in her flat to see this girl, whose parents had died in the war that was raging in the snow-bound fields of Russia, and who from then on would be the daughter of an Uzbek woman, their neighbour.

Muabara told the women she had taken her bank-book to the City Department of Public Education to show that she was able to provide for the girl. The girl's name was Katya. She said her father had gone to a place far, far away, from where nobody ever came back, and the women inferred that her father was dead. She had lived at home with her mummy. Then they got on a train to get away from the fascists. But something happened on the way. Katya could not tell what. She only knew that she woke up at night, when bombs were bursting all around and everything was in flames. A man carried her out of the train. She did not know where her mummy was now.

Next morning Muabara wrote to her husband, telling him that they had a daughter.

Little by little life entered on its new course. At the beginning little Katya used to tremble with fear and hide every time she heard an aeroplane, but she soon got over that. She became used to calling Muabara "Mummy," although she often mentioned her real mother. She learnt to speak Uzbek and made friends with children in her street, among whom there were now several others as fair-haired and as snub-nosed as she. She liked the colourful silk dress of Uzbek pattern that Muabara made for her. Still more delighted was she with the *chach papuk* (silver ornaments for braids) which Muabara had herself worn as a girl.

Muabara's life was now the one she had so often dreamed of in her

early married years. But then the young woman suffered a heavy blow. She was notified that her husband had fallen in action while defending Stalingrad against the fascist invaders. Need I say how deep her despair was, how attentive her neighbours were to her and how they strove to help her through her sorrow, how her aged parents came from Vabkent, her native town, to take her back home, and how she hesitated, then made up her mind to stay in Bukhara and go on working in the co-operative and bringing up her daughter?

Two more years rolled by. Muabara was giving Katya all that a loving mother can give her only child. She had for ever tied up her life and dreams with the girl, with her young joys and sorrows and troubles. Meanwhile life had a fresh blow in store for her.

One day in February 1944 there was a tap at her door. Katya was at school. Muabara opened the door and saw a Russian woman she had never met. The stranger's karakul coat was unbuttoned, and a guerrilla medal glistened on her chest. She turned out to be Katya's mother. She stepped into the room and started telling her story in elated tones, without sitting down or taking off her coat, and unaware of Muabara's deadly pallor. She had been wounded, but kind people had nursed her back to life. She had fought as a guerrilla and then, after returning to the rear, spent six months searching for her lost daughter all over the Soviet Union. At last she had come upon the girl's track and found her. She talked on and on, while Muabara, who had not yet recovered from the shock, stood facing her, defenceless before the other's joy.

The door banged. Gaily shaking her numerous plaits, braided in the Uzbek fashion but fair instead of black, Katya ran into the room and over to Muabara. "Mum!" she exclaimed. Then she saw the woman and recognized her. She stood speechless for a moment, then cried "Mummy!" and rushed to her, but stopped half-way, looked back in embarrassment at Muabara, dropped her head, walked slowly into a corner, sat down on a chair, and burst into tears. Both women ran up to her, crying too.

One of Muabara's neighbours was a chance witness of the scene, having come for her meat-chopper shortly before. She at once roused the other women in the house, calling on them to "defend" by common effort Muabara's happiness, "threatened" by the unexpected visitor. Towards

evening, after deliberating at great length on the incident and working out "defence" tactics, the women knocked at Muabara's door, only to learn that the matter had been settled without their intervention. Both mothers—the Russian and the Uzbek—had had time to cry their fill, compose themselves, and give each other a detailed account of what had happened. After discussing and weighing everything, they had decided to live together from then on, the more so as the house of Katya's mother in far-away Smolensk had burnt down and she could work as well in Bukhara, being a teacher.

I do not know how that family is doing now. I wonder if the girl succeeded in knitting the two women together by her daughterly love. Perhaps time brought about, as it does now and then, rifts in the two women's relations that gradually led to a break. But why think of an unhappy turn, since the start was so lucky? Both mothers—the Russian and the Uzbek—were sure they could get on well. That was as it should be, because if one does not believe in happiness, one has nothing to strive for, and that means one will never see happiness.

10. FIGHTING THE SANDS

Around Bukhara a fierce battle has been raging for many centuries between man and the desert.

As you drive out of Bukhara you notice bare patches of yellow sand amid the orchards and cotton plantations. The farther away from the city, the larger the patches, the smaller and wider apart the cultivated fields, and the lower the plants, which seem to be withered by the sun. Beyond Vabkent, Shafrikan, and Gízhduvan all vegetation disappears in the rolling expanse of dunes. Where the desert begins, you may see even now half-buried cotton-fields, tree-tops sticking out of the sand, or buildings covered with sand almost to the roof. Scattered in the lifeless desert west of the Bukhara Oasis are dozens of ancient mounds—all that is left of Varakhsh, Paikand, and Vardan, once great and thriving towns. Yes, a battle is raging around Bukhara.

The sands are in constant motion. At times the small, horseshoe-shaped dunes shift as much as twenty yards a day. They invade kitchen-

gardens, *ariks*, and village streets. Not so long ago the population of entire villages had to pack up and move. In the middle of last century, 16,000 inhabitants of Rometan District (north-west of Bukhara) fled to far-off Khiva before the onslaught of the sands. The desert had defeated them and stripped them of shelter. They did not realize that it was they and their fathers and grandfathers who had set the desert on the war-path. The desert was peaceful until they cut down for firewood all the saksaul-trees round their towns and villages, and fed the other plants to their camels and sheep, thereby unanchoring the sands and turning them over to the winds. Man himself made the desert and armed it against himself.

In the Shafrikan Oasis there is a *kishlak* named Tez-Guzar. Its inhabitants are fond of saying that the desert was stopped on the edge of their *kishlak*.

When the Tez-Guzar collective farm was set up a score of years ago, only one or two persons signed their names to the minutes of the general meeting, all the others put their thumb-marks on the paper. In those days hardly anyone in Tez-Guzar could read and write. How could people who had to dip their thumbs into the inkpot to sign a paper, fight the desert? But a few years later, when sand-storms began raging near Tez-Guzar, the villagers refused to pack up their belongings and clear out. They had made up their minds to defend their collective farm, named after Stalin. By then they were literate, they trusted in science and knew that the entire district, and the whole republic, if necessary, would come to their aid.

With the support of agronomists, the collective farmers gave battle to the Kizil Kum Desert at Tez-Guzar. For the first time in the republic's history, they planted a belt of black saksaul, thistle, and *kandim* to anchor the shifting sands. After that Soviet people started to turn back the desert. By 1946 the Bukhara Shield, a green barrier 70 miles long and from one and a half to two miles wide, had been set up between the oases and the sands in Bukhara Region. The people of Shafrikan got busy clearing the fertile land buried under the sands, and then irrigated it with water from the Uzbek Sea. Sharif Bobo Hamrayev, a celebrated cotton-grower of Shafrikan, began raising "white gold" on land wrested from the Kizil Kum. Collective farmers laid out tangerine and lemon

groves along the desert fringe where shortly before there had been sand dunes

Man's struggle against the desert is arduous, but fascinating. First, however, let me tell you what the desert is like

Usually travellers picture the desert as a boundless ocean of sand where caravans led by experienced "pilots," who determine the route by the stars or by map and compass, move along like ships at sea, where the crests of the dunes seem to be smoking, and sand-grains burn your face like sparks, where the horizon is wrapped in the haze of a sand-storm. That is what desert which lies in a wide semi-circle round the Bukhara Oasis is like.

Cinema cameramen can work here only early in the morning or at dusk, when the dunes cast shadows. By day their outlines are indistinguishable, and the desert presents itself to the eye as a monotonous, lifeless yellow plain. It then seems so level that you cannot help starting whenever a horseman or a caravan of camels emerges all of a sudden a few dozen paces away, as if it had popped out of the earth, only to vanish just as suddenly after passing you by. Amazing optical illusions occur here. Because there are no houses or trees around—nothing to serve for comparison—you lose your sense of size. A lizard, silhouetted against the sky on the crest of a small dune, may appear a huge monster, and a solitary little shrub a big tree.

When a storm blows up, the smoke curling up from the dunes turns into jets of sand. The sky becomes an ominous red. Travellers caught by the storm dig themselves into the sand in all haste. Sometimes the dunes change into graves—when travellers mistake the direction of the wind, or the storm lasts several days. Many are the tragic deaths recorded in the history of the sands!

That is what the desert is like near an oasis. But the heart of the Kizil Kum, one of the greatest deserts in Central Asia, is different. You see that at once when you go there by plane from Bukhara. Round the Bukhara Oasis stretch bare shifting sands. Those are sands set loose by man. But deep in the Kizil Kum, the boundless expanse of sand is covered with green warts and spots of many colours. Here and there dark mountain ridges stretch across the reddish landscape. The flocks of karakul sheep seem like black pools from the air. That is real desert, a

desert full of life and a poetry all its own, a desert of which shepherds and scientists speak as of their first love—with deep tenderness

Scientists will tell you that the Kizil Kum and the Kara Kum are deserts of an original kind eighty-five per cent of their plants grow nowhere else on earth European scientific institutions order from the Soviet Union the saksaul, the sand acacia, and dozens of other interesting plants that contain rubber, dyes, or medicinal stuffs

Everyone in Uzbekistan knows the saksaul, the most crooked tree in the world, a tree so heavy it sinks in water, so hard that chopping it is real torture, and so brittle that you can smash it striking the other end against a rock, a tree which gives nearly as much heat as coal, and after burning leaves only a tiny handful of white ashes Yet few have seen a saksaul forest

A saksaul forest in the Kizil Kum is a collection of trees that are for all the world like so many brown serpents, petrified in bizarre dancing postures The leaves are cylindrical and so narrow as to afford no shade The sunlight goes all the way through a saksaul forest, and you can see far through the boughs No sound can be heard in that forest, not so much as a rustle And when night falls and the moon floats up into the sky, flooding everything with a violet light, the forest seems to be enchanted and growing on the Moon rather than on the Earth, and one might take the distant silver disk in the sky for the Earth

When you travel for the first time in the desert, where everything is so unusual, you cannot get rid of a feeling that you have moved to some other planet Salt marshes—now snow-white with salt, now bright-green, yellow, pink, blood-red, or dark-lilac from the saltworts growing in them—spread round you a setting of yellowish-grey and orange sands The *takirs* (patches of clayey ground, so smooth they are like mirrors when seen from afar, and sometimes even like blue lakes amid the sands) resound under the hoofs of horses as asphalt might.

In the Kizil Kum there is a wealth and variety of wild life.

Lizards scurry about, changing direction incessantly. They are so numerous they resemble shoals of fish. There are some that chirp like birds. There is also the agama, a lizard whose white breast turns bright-blue when it is irritated; to get away from an enemy, it starts trembling from head to tail, thus pushing out the sand with its sides,

and burying itself in it in no time. The nimble jerboa usually stands up on its hind legs, and there is something human about that, but it moves along by enormous bounds. It has eyes so big they seem to be spectacled, a large mouth and short forepaws, and is exceedingly curious. Yet it is as common in the unusual desert surroundings as the ordinary saksaul jay, a bird which waggles its tail and flaps its wings as it runs across the sands, taking absurdly long strides with its lanky legs.

To get at the stem of a plant, a tortoise stretches out its neck—as wrinkled as that of a very old woman. A reddish-brown boa steals through the sand to a gaping suslik. Huge pitch-black beetles move backwards, rolling up balls of camel dung. A red Karaganka fox races along, sweeping its tracks in the sand with its tail. The brownish-yellow forms of horned or hornless saigas with white dickies speed away before your eyes like fleeing ghosts.

Desert wells are very deep, some going down as far as 325 feet. It was with wells—those centres of life in the desert—that socialist reconstruction of the Kizil Kum began.

I remember a well that I saw some twenty years ago. A red flag fluttered in the wind over the Village Soviet, the house nearest the well. Round it stood three ragged *yurts* pitched by nomad shepherds for a few days. Farther off were two white canvas tents, one of which belonged to a sanitary-medical caravan, and the other to a party of hydrogeologists. Two or three shepherds could always be found sitting in the hydrogeologists' tent, chatting reservedly about this and that. What attracted them more than anything else was the welter of mysterious objects which the hydrogeologists had in their tent: cameras, casks, research instruments, a primus stove, soap-holders, tinned food, razor blades, vacuum flasks, field-glasses, and what not. The shepherds would ask seemingly casual questions, trying to find out what was what. It was the early light of a new dawn in the desert.

If you visit a well today, near the Village Soviet you will see, amid orange hills, a clinic, a school-house, a veterinary station, a co-operative shop, a post-office, and a reading-room. Besides, there are dozens of small houses in which Kizil Kum shepherds and their families have been living ever since they gave up their nomad life. Radio has come to the desert, and you will hear piano music ring out over the sands. You

will perhaps see a lorry being unloaded in front of the co-operative shop, its driver, a former shepherd, served in the Soviet Army, and his cultural standards are as high as those of any driver of Ryazan or Tambov Region in central Russia.

The first generation to attend the local school finished it long ago, then continued their studies in various cities, and came back as hydraulic engineers, vets, or teachers to fill the village with the stir and bustle of cultural life. And where an ancient well was—on the edge of the village—there rises the 120-foot metal tower of a wind-power plant. It sets in motion the piston pumps that supply water to flocks of sheep. Such towers have sprung up all over the desert like beacons, they are typical of the new appearance of the Kizil Kum.

There is a house in the Kizil Kum that is unlike any of the others. In the yellow sands round it grow melons, grapes, cucumbers, and radishes—new varieties of “sand” fruits and vegetables. There are also sand barley and other desert plants. That house is the Kizil Kum Sand Station of the Uzbek Academy of Sciences, headquarters of the Soviet offensive against the Kizil Kum.

There, in the whirl of constructive experiments, disappointments and achievements, you can foresee the future of the desert, that time when vineyards and orchards will appear amid the sands. The station is the birthplace of bold schemes to encircle with thick shelter belts all of Uzbekistan's oases, reservoirs, and rivers as well as her largest canals, and to hold down the vicious shifting desert sands with trees and shrubs.

Aeroplanes have been flying over the Kizil Kum for several years now, sowing saksaul seeds on immense areas. Meanwhile, on the border of the Bukhara Oasis, thousands of collective-farm cotton-growers have been planting poplars, mulberry-trees, oleasters, tamarisks, sand acacias, and numerous other trees and shrubs.

The Bukharans have checked the desert and made it retreat. The day is not far off when the desert will have to move back from all the loess lands round Bukhara which it now occupies.

Then the Karakul Oasis too, once extensive but today nearly buried under the sands, will start winning back its land step by step. As the desert, like a boa, tightened its ring of golden sand round the oasis,

people had to leave village after village and become nomads. The desert robbed them of their fields, forcing them to take up animal husbandry and move from mud-huts into *yurts*. The more sheep they bred, the faster the sheep ate or trampled down the desert vegetation, and the more the sand ring closed in on Karakul. Those were sheep of an unusual and most valuable breed, the one now known the world over by the name of Karakul, its native region.

11 THE KARAKUL DESERT

Uzbek shepherds say, "Spread your robe on the sand, sit down on it, have a kettleful of tea and a chat with clever people, and if on getting up you see that a blade of grass has stuck to your robe, you may be sure the place is fit for karakul sheep." Sometimes karakul sheep cover about 20 miles a day in search of grazing land.

Uzbekistan's karakul is world-famous. Only from three to fifteen days after birth do the lambs retain those highly-prized astrakhan curls, that wonderful pattern and that colour which hardly recur, if at all, and which have brought karakul its renown. The lambs have to be slaughtered so early it has given rise to absurd rumours.

Some are convinced, for instance, that astrakhan is the skin of an unborn lamb taken out of the ewe's womb by slitting her belly open. During the last few decades that rumour was spread assiduously by British journalists hired by companies that deal in karakul, particularly karakul of Uzbek origin, which they buy in the U.S.S.R. to sell to their wealthy customers. As for the latter, they readily took to the rumour, because they felt it raised the value of their expensive karakul coats even higher.

At first, cross-breeding of karakul sheep brought Soviet rescarchers all sorts of unpleasant surprises. They would mate, say, a grey ewe and a grey ram, and the result would be a stillborn lamb. Or they would mate two black sheep, and be rewarded, contrary to expectations, with a grey lamb. Or they would mate first-class breeds and get a third-rate lamb. There was no accounting for all that.

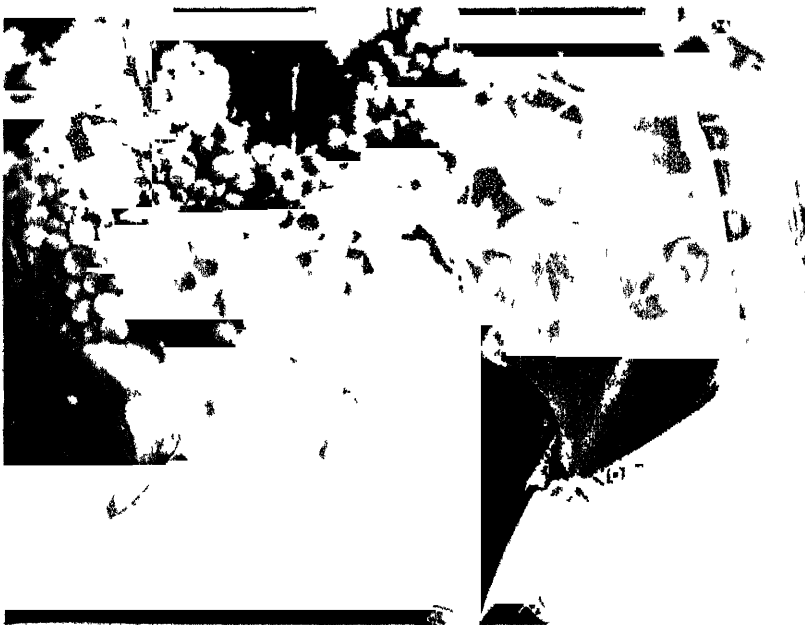
Soviet breeders wanted to achieve astrakhan of a pre-calculated high quality. Fortunately, the task was undertaken by Michurinist spe-



Picking grapes on the Bulungur State Farm



Beehives at the Orjonikidze Collective Farm in Samarkand Region



Rizamat Musa Muhammedov, a celebrated vine-grower, Stalin Prize winner

cialists in stock-farming, pupils and followers of the famous Mikhail Ivanov. Combating the Weismannists, they boldly cross-bred karakul sheep. At last their effort was crowned by the first decisive achievements, as evidenced by the following two facts.

The first fact is that the pedigree karakul farms now account for ninety to ninety-five per cent of the top-grade astrakhan. The second and still more striking fact lies in that today karakul sheep graze and produce excellent astrakhan not only round Bukhara, in the sands, but in the Ukraine, Moldavia, and even Bulgaria, to say nothing of the immense expanses of the Kizil Kum and the Kara Kum deserts.

In the very heart of the Kizil Kum, near springs that take their source in the slopes of a minor range crossing the desert, lies the old village of Tamdi, where a new karakul-breeding centre has come into being.

Today the lorries of the Tamdi Machine and Stock-Breeding Station spread socialist techniques and culture wider and wider in the "red sands", they deliver to the pastures concentrated feeds as well as newspapers and magazines. The station's staff workers teach stock-breeders new methods of mechanical shearing, artificial insemination, and classing of sheep. In spring they sow grasses from aircraft. Barley and other feeds are delivered by air to breeding-places situated in the farthest districts. Deep in the desert, where every single inhabitant was illiterate twenty-five years ago, people now see motion pictures and read books.

Kizil Kum folk learn a great deal from those books. But they also get an idea of the victorious advance of socialism from the open book of the desert, the book of tracks in the sand, a book they have been reading for ages and can read as no one else can. Ask a Kizil Kum shepherd if there is anything that leaves no tracks behind. He will laugh in answer. To leave no tracks is like having no shadow, like having nothing. Life is reflected in the sand as in a mirror. A shepherd's keen eye can make out the tracks of a camel on a *takir*, where nobody else can see them.

Once a young man and a young woman, Moscow students both, arrived for practical training at the U.S.S.R. Research Institute for Karakul-Breeding in Samarkand. To begin with, they were sent to a remote collective farm to "get some notion of the desert." Two or three days after arriving at the farm, they went out for a ramble in the sands.

When they came back, the sky was already studded with stars. Next morning everyone in the surrounding desert knew the details of their ramble. They had set off at a brisk pace, running lightly up the hills on their way to view the vicinity. Between shrubs they had advanced carefully, perhaps being afraid of snakes or venomous spiders, of which they must have been told many a story before leaving for Uzbekistan. Then they had sat down and sifted sand through their fingers while chatting. During that interval they had kept a respectful distance apart. Lastly, they had started homewards arm in arm, slackening their pace as if to share each other's company longer. Thus Kizil Kum shepherds read from tracks even that timid feeling which young people generally do not dare confess even to themselves.

Since the beginning of time, the desert has known its tracks. The dung-beetle leaves a treble track, the third being left by its trailing tail. Man treads on his heels, but a camel leaves pits behind. Here a hedgehog and a *naja* (a venomous snake) had a fight, the *naja* managed to get away from the hedgehog. And here a shepherd caught a *taphrometopon* snake with a forked stick, which means that he has a new whip and needs a snake-skin to encase the handle. Ah, a lost camel passed here two hours ago! Better send a heidsboy for it; before he catches up the beast and brings it back, its owner will probably come up along its tracks—it will be a pleasure to sit down and have a chat with him.

Now new tracks have appeared in the desert. First there were two broad strips with cross-bars, as though two huge boas had crept side by side, talking. Those were lorry-tracks. Then more and more new tracks showed.



IN THE SOUTH





1. THE VALLEY OF THE SNOW RIVER

There is a river in Uzbekistan that is as much like the Zarafshan as a sister may be like her brother. It is the Kashka Darya, which flows out of the same mass of mountain ranges and also runs westwards, but lies to the south. Like the Zarafshan, the Kashka Darya is flanked by ranges that move apart and grow lower till they merge with the rolling sea of sand. Also, it was once a tributary of the Amu Darya and ceased emptying into it ages ago.

The valley of the Kashka Darya seems a mirror reflection of the Zarafshan Valley. It has a "minor Samarkand" oasis of its own, called the Shahrīsabz-Kītab Oasis, which is as ancient and as flourishing as the larger one. It has a "minor Bukhara" oasis too—the Karshi Oasis, surrounded by steppeland and shifting desert sands. The tiny Kassin Oasis lies along the lower reaches of the Kashka Darya, as if imitating the Karakul Oasis. Round it, too, numerous flocks of karakul sheep roam amid wells with the metal towers of wind-power installations.

But the Kashka Darya is a snow river. It owes its origin not to huge mountain glaciers many centuries old, but to the light cloak of seemingly blue snow covering the ranges. Like the Zarafshan, it has its flood-time, when the mountain snow turns dark and thousands of streams fill the gorges with merry gurgling. But in July, when the

parched earth longs for moisture, when the flood is at its highest on the Zarafshan (its formidable roar shakes the very mountains, and down in the valley it is wide and swift and mighty as at no other time), the Kashka Darya becomes a wretched little river, crawling helplessly between its winding banks

Life in Central Asia ends where water gives out. As the Uzbeks say, "The earth ends where water ends." That is why the oases and towns and villages in the Kashka Darya Valley are diminutive as compared with the Zarafshan Valley. The only thing which is not diminutive is the vast steppe, perhaps the most barren in the republic.

Seen from far out in the steppe, a small but wonderful oasis presents itself to the eye like a green hill. There the two towns of Shahrisabz and Kitab lie side by side.

In the middle of Shahrisabz rise the ruins of Ak Sarai—two giant, tower-like portions of the façade of Tamerlane's "White Palace," with its shining golden, azure, green, and deep-blue ornamentation.

When Shahrisabz children play at the foot of Ak Sarai on a sunny day, their colourful *tubeteikas* seem from afar to be fragments of mosaic fallen from the palace walls. There is not a woman in the town but has known from childhood how to embroider those *tubeteikas*, gracing them with *iraki*, the famous Shahrisabz seam, and *terma*, an even finer seam; they also embroider carpet-like waistcoats for women, hand-bags, shoes, dark-red belts with white lines that make the design almost translucent, and other articles.

Every Shahrisabz inhabitant takes pride in the best embroiderers of the Hujum Co-operative. Yuldashkhon Dalilova, the co-operative's gifted artist, is known throughout the republic. As for the town, it has acquired country-wide fame, for not only in Central Asia but in the Ukraine, Georgia, the Urals, Moscow, and elsewhere many women wear *tubeteikas*, hand-bags, or belts made in Shahrisabz. In 1937, a Shahrisabz *tubeteika* won a Grand Gold Medal at the International Exhibition in Paris.

Rush mats hanging on the clay walls in Shahrisabz and Kitab impart a unique picturesqueness to the streets. There is nothing like it in the other towns of Uzbekistan. The mats protect the walls from the copious rains during the winter season, when clouds roll down from

the mountains that rise in a narrow semi-circle round the oasis, the mountains, incidentally, prevent the wind from blowing away the clouds

The abundance of winter rains has imparted a distinctive appearance to the entire oasis as well. In Central Asia the trees grow along the *ariks*, and that is why they form a regular pattern, no matter what their size, shape, or shade of green. They always make up chains, outlined against the sky, above house-tops, or against the background of other trees, chains that are a light green or so dark they seem almost black, chains that are bristly or else as rounded as clouds of smoke, that run apart or together, or intertwine quiveringly.

But in the Shahrīsabz-Kitab Oasis the trees do not grow that way. They run uphill, or fill with their luxuriant crowns hollows across which *ariks* wind like brooks. As in Russia, there are groves with shady depths that lure you, and glades scattered with shrubs. This free arrangement of the trees, combined with their Central Asian luxuriance, colour, and splendour, has made the Shahrīsabz-Kitab Oasis perhaps the most beautiful corner of Uzbekistan. It was with good reason that the inhabitants changed the town's name from Kesh to Shahrīsabz, which means "Green Town."

The people of both Shahrīsabz and Kitab call their town "Little Samarkand." Indeed, the orchards here are as flourishing and the vineyards as fertile. And like Samarkand, Kitab is famed for canned fruit and excellent wine.

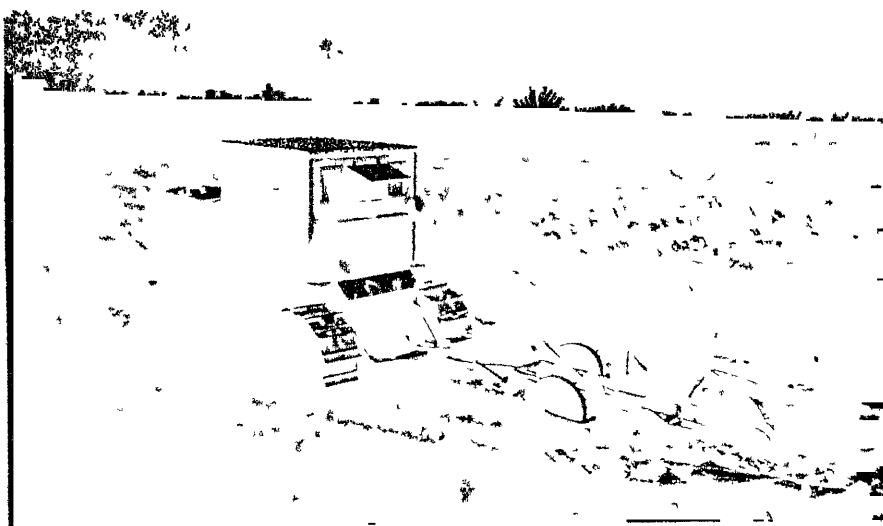
Uzbekistan's wines have an interesting history. Formerly, because of religious customs, the only products made in Central Asia from grapes were (besides raisins) *shuni*, a treacle somewhat like honey, and *musallas*, a sweet beverage. Wine was made too, though. And certainly not just to be looked at. "Substitute the flame of wine for the flame of love, cup-bearer!" Alisher Navoi would exclaim, raising a cup of sparkling wine in the company of friends. "What should I do in Mecca without wine or a sweetheart!" Mashrab, a poet of the seventeenth century, would sing at the top of his voice in a *chaikhana*. He feigned madness all his life so as to be able to sing freely anything that craved for an outlet in his heart. Wine was made and drunk in Central Asia. But it was made and drunk in secret.

For a very long time wine-makers held that the local grape varieties were good for raisins but not for wine, the grapes were too sweet and fleshy, they said. So they cultivated such imported kinds as Hungarian, pink or Alexandrian muscat, *tavkveri*, *rkatsiteli*, *saperavi*, *rundweiss*, and others. But the scorching Central Asian sun added sugar to these kinds as well. The wine-makers were discontented. And although large wineries sprang up in Samarkand and Tashkent, and later in Kitab, Bukhara, and Denau, and although the Uzbek wines improved year after year, connoisseurs seldom bought a bottle of wine bearing an Uzbek label. It was generally believed that no matter what you did to them, Uzbek wines would never be able to vie with the Crimean or Caucasian.

When the Patriotic War began, veteran wine-makers arrived in Uzbekistan from the Crimea. Some of them came without any luggage—with just the clothes they had on, but they brought carefully wrapped cuttings of experimental vines, with which they linked their hopes for future achievements. They were such enthusiasts that one felt if they had landed in the far-away Arctic region instead of in Central Asia, they would grow vines and make wine there too.

On arriving they tasted the Uzbek wines, and they praised them. Then they inspected the vineyards of Tashkent, Samarkand, and Kitab, and came to the conclusion that first-rate wines could be made from many local varieties of grape. The prejudice was thus shattered. The best wines of Uzbekistan took their place along with the famed Caucasian, Crimean, and Moldavian wines, as their equals. Today connoisseurs readily buy wines named Uzbekistan, Jaus, Bishti, Buaki, or red Soviet Champagne, which is produced in Tashkent. After taking a sip from their wine-glass, people at a wedding party or a New Year's celebration, sometimes 1,800 miles from Central Asia, often pick up the bottle and study the label, so as to remember it. The label may bear the name of Samarkand, Tashkent, or some other Uzbek town, such as Kitab.

Yet it is not to wine but to something else that Kitab owes its real renown. Letters and books come to the Kitab Latitude Station from all over the globe. The station is the only one in the U.S.S.R., and one of



Ploughing a collective-farm field



Mechanical pollination of cotton-plants



Turgunbai Hamrakulov is the best tractor-driver
at the Altin Kul Machine and Tractor Station

the five in the world. All these stations, including the one in Kitab, lie on the same parallel, 39°08' North latitude.

The Kitab Station is named after Ulug-Beg. In terms of the history of the universe, the five centuries that have passed since his time are no more than an instant. The stars which *he* saw shine down on us too. Perhaps some of them became extinct before he was born, but their light continues travelling down to us through the ages. Mankind has made tremendous headway since Ulug-Beg's time, and so has science. Astronomy has given rise to a multitude of new sciences, one of the youngest of them being that which treats of the earth's rotation.

Everyone knows that the earth rotates about its axis. Yet by far not all know—and those who do know learnt it only recently—that while the earth rotates, the north and south poles shift their position, describing now winding spirals, now unwinding ones.

Every day at dusk astronomers come out of the Kitab Latitude Station and walk across a shady grove to a pavilion whose white walls show through the trees. The pavilion is equipped with a Zenith telescope which, though not large or very powerful, is most precise. Precision is a prime condition for the work of the local astronomers. They do not so much as breathe on the telescope, let alone touch it, for fear of affecting its precision. Throughout the night astronomers mark the moments at which certain stars pass over that particular point of the earth. The chart of their observations clearly shows how the latitudes of the earth vary and its poles shift month after month and year by year.

One of those shifts, which describes a complete circle every fourteen years, was predicted more than a century and a half ago by Academician Euler of St. Petersburg, who applied the laws of mechanics to the earth. The other kind of shift, which describes an elongated ellipse in the course of a year, was explained by A. Orlov, a Soviet astronomer. This shift is brought about by the redistribution of the masses of snow on the globe in different seasons. But certain variations of the latitudes have not yet been explained by astronomers and physicists. It is to the solution of these riddles, to creative meditation on properties of our planet still unknown or new to mankind, that Kitab scientists devote those hours of their life when the sun makes its shining way overhead.

2 THE BAISUN MOUNTAINS

All along your way you hear the noise of mountain streams—a noise as steady as if millstones were grinding everywhere. The chill air coming from the peaks makes you shiver. The road winds upwards in dizzy coils, and at every curve you gain an unexpected, invariably majestic view of the scenery.

Now you see a valley, as tawny as a lion's skin, with mud-huts clinging to its rim, and you have to look hard to make them out among the boulders. Now your gaze is drawn to grotesque cliffs of white or reddish limestone, rising upon black schist pedestals. Against their background, the trees seem to be suspended in the air, and the sunbeams piercing the gorge light up the tree-tops like so many candles. The blue mirror of a tiny lake glitters on the off side, amid sheer crags, polished and bare. A flock of steep-horned argals appears occasionally in the distant cloud-capped mountains, only to vanish like a phantom.

The Baisun Tau Mountains were named "turban-bearing" by a Kho-iezmi traveller when, from the Karshi steppe, he first saw their snow-topped ridges, with Hazret Sultan Peak, the highest point in Uzbekistan (16,377 ft), rising above them like a grey-haired patriarch. Amid a chaos of rocks scattered on the shoulders of that peak, lies the dark and sombre Severlov Glacier, spotted as it were with herpes and ulcers. There, in the upper tier of the mountains, on the steep ice-covered and rocky slopes where white-headed *kumais* and snow giffons nest, man is a rare visitor. Those who do come there are topographers, carrying cement and rock drills on their backs to set up a trigonometrical point on some peak or other, glaciologists, mountain-climbers, or hunters.

The crests of the ranges afford excellent hunting, yet mountaineers prefer to hunt lower down, in the zone of alpine meadows and wooded slopes. The largest forests there are made up of archa, a tree-like juniper which grows in thickets on slopes sheltered from the hot breath of the deserts. Bright clumps of elms, maples, and wild fruit-trees mottle the dark coniferous archa forests. Occasionally one comes upon a birch or even a rowan-tree. A marten cautiously makes its way along the fringe of a pistachio grove. Sniffing and blinking their small, dull eyes, wild-boars go down through a forest thicket to an ice-cold brook.

Once in a while the white snout of an ermine or the melancholy muzzle of a badger pokes into view from behind a crag covered with tufts of grey moss, or from hawthorn or black-currant shrubs. A porcupine crawls off into an almond grove up a path spitted with stones. Perched on a wild pear-tree, a bear regales on fruit. And everywhere you can hear the luring voices of birds and the flapping of wings. How can mere words do justice to that ringing and fragrant and iridescent region!

The Baisun Mountains, particularly their southern slopes, are rich in virgin forests like that. But far oftener you see gorges walled with porous rock and vast meadowlands overlooking the valleys.

Go to the meadows and spend a night with shepherds by a fire with a low, mist-smothered flame. You will see that even up there—far from the republic's cultural centres—people are full of the inventive spirit, persistently seek for the new and, as everywhere else, have their setbacks and their success.

The shepherds will tell you that the local Hissar is the largest breed of meat- and fat-yielding sheep in the world. Six-month-old lambs weigh as much as 100 pounds, or more than full-grown sheep of the Romanov breed. The best fattened Hissar wethers reach 320 to 350 pounds in weight, their tail-fat alone weighing from 100 to 140 pounds. But the sheep in the flock you see on that meadow are a far cry from what Hissars used to be. Those yielded the poorest wool in the world, fit only for making rope and coarse felt. In fifteen years shepherds and stock-breeders changed the skins of their sheep. By crossing fine-fleeced Lincolns with Hissars, they evolved the Linhiss, a new breed having the fatty tail and the weight of the Hissars, and yielding excellent Lincoln wool for making worsted.

Together with botanists, shepherds are now searching for grasses that will grow on gravelly slopes, so as to turn them into pastures. In former times the very idea of transforming or improving Nature would have seemed here preposterous and even blasphemous.

In the mountains you may hear a shepherd tell the story of the wizard who turned an old man into a donkey and the donkey into a pigeon and the pigeon into a fish, and then produced a precious stone from the fish's stomach. But no matter how artless the gaze of the story-teller

may be or how credulous and wonder-struck he may appear, deep in his eyes you can always discern the mocking smile of a mature man who learnt a long time ago to find simple and practical explanations for all that seems extraordinary. That maturity was brought to the people up in the mountains by Soviet reality. People stopped believing in miracles because they began to perform miracles of their own.

An all-consuming passion for changing the world about them is easily to be seen everywhere. Go, for instance, from the meadow you have been visiting to one of the numerous picturesque hamlets scattered in the inmost valleys of the mountains.

Thriving crops in all parts of the valley attest the industry of the inhabitants. At first sight that tiny green patch there, amid the rocks, presents nothing noteworthy to the eye. (As of old, land here is measured by the *tubeteika*, and people say, "On this patch you can sow three *tubeteikas* of seed, and that one is enough for six.") But any collective farmer will proudly tell you that the wheat you see on that patch is not of the ordinary kind, but *tuya tish* ("camel tooth"), a new alpine variety evolved by Abdukhalil Odinayev, a collective-farm experimenter of Shirabad District, and improved by Kuiban Nurmatov, a collective farmer of Baisun District.

The Baisun Michurinists have made great progress. Apart from improving the fruits which grew in mountain orchards before, they have introduced apricots, grapes, and peaches. When Rahmatullah Safarov, a member of the Madaniyat Collective Farm in Mirakin District, raised an apricot orchard at a height of more than 10,000 ft. above sea-level, Michurinists from all parts of the mountains came to him for cuttings.

Experimenters are also working on the archa, which is noted for its slow growth as much as for its longevity. There are two famous archas in Yakkobag District, one of which is dead and the other living, and the age of both is estimated at several thousand years. The archa yields balm. Besides, it supplies the best wood for pencils, and as pencils are needed by school children and collective farmers, doctors and vets, geologists and topographers—in fact by all Soviet people—it would not take long to destroy the forests. That is why forest experimenters are working to accelerate the growth of the archa.

In the heart of the Baisun Mountains lies the well-known Iron Gate (Derbent) Gorge. The sunshine never penetrates this sombre cleft in exceedingly high and steep walls of granite and porphyries. In spring a rivulet rushes along its bed. The motor highway that crosses the Baisun Mountains runs through the gorge.

From the Iron Gate area flow two small rivers, the Guzar Darya and the Shirabad Darya, the first running northwards to the Karshi Steppe, and the second southwards to the Surkhan Darya Valley. The road skirts one river, then the other, now climbing the rocks and bordering itself off from the river by a parapet, now coming down close to the swift, foaming stream. An important trade route passed there in antiquity. Like two caravanserais, two towns—Guzar and Shirabad—rose on it at the foot of the mountains. They bear the names of the two rivers at whose extremities their vineyards and orchards spread, Guzar lying in the north and Shirabad in the south. "The caravanserai is a mirror of the world," says an old proverb. Guzar and Shirabad were the world's mirrors for the mountaineers of Baisun.

Having brought a flock of sheep to the bazaar in Shirabad or Guzar, a mountaineer would visit a *chaikhana* to hear what caravanmen had to tell about regions far and near. Those were stories of robbers who attacked caravans to plunder and kill the travellers or sell them chained into slavery, of men skilled in fashioning noses for those whose noses had been cut off at the khan's command, of iniquitous judges and grasping money-lenders.

Few were the Baisun mountaineers who ventured to expose themselves to the countless dangers threatening wayfarers. Most of them never went farther than Guzar or Shirabad. More than thirty years ago, just as three thousand years ago, there was only one place where they felt at home, and the rest of the world was foreign. Today the young mountaineer of Baisun hears this with a surprise verging on incredulity, for he feels at home in Tashkent or in Samarkand, where he may have been educated, in Begovat or Katta Kurgan, where he may have worked on the Uzbek people's great construction projects, in Sverdlovsk or Vladivostok, where he may have served in the Army, in Kiev or Kishinev, from where he may have forced out the fascist

invaders with mortal fire, or in Moscow, where he may have taken a course of training to improve his occupational skill or participated in a sports parade or simply spent his holiday as a tourist

3. SUBTROPICAL PLANTS

As you drive southwards along the highway from Shuabad, you see more and more lorries whose windshields are covered with a web of fine cracks made by the burning sun. They remind you that Termez is the hottest point in the Soviet Union. In summer the temperature there reaches 122° F. in the shade, while the sand is heated to as much as 185° F., which is not much below the world maximums in the Central Sahara or Death Valley, California.

Soviet people used that scorching sun to transform the Surkhan Darya Valley, with the result that it now holds a special place in the Soviet Union's national economy as a grower of fine-staple cotton and other plants common to the dry subtropics.

Egyptian cotton is purchased by the principal countries of the world, because it has the longest fibre (over 1.5 inches) and the strongest fineness in the world. It goes into the manufacture of top-quality fabrics, automobile tires, and other articles of high durability. Not so long ago the valley of the Nile was the only region where that sun-loving cotton grew. World science contended that the Egyptian cotton-plant could not be cultivated in the U.S.S.R. Dr. Harland, a well-known British specialist in cotton-growing, wrote about that more than once.

But Michurinists in the Soviet Union maintained a different viewpoint, best expressed in these words of Michurin's which are now familiar to every Soviet school child but which were unknown even to many high-placed professors some ten years ago: "We cannot wait for favours from Nature, we must wrest them from her." In Azerbaijan, Turkmenia, Tajikistan, and Uzbekistan, young scientists, enthusiasts, set about changing the nature of the Egyptian cotton-plant and acclimatizing it in the Soviet Union. They succeeded almost simultaneously. The best variety—the one that yields the longest fibre, is the most disease-resisting, and has the largest boll—was evolved by Avtonomov of Uzbekistan, a Stalin Prize winner. Collective farms in Uzbekistan's

Surkhan Darya Valley began cultivating on vast areas his "35-1" variety of cotton, and later his "10964" variety, both of which ripen earliest of all

Our new cotton is sometimes called "Egyptian" by force of habit. But there is nothing Egyptian about it, because Soviet plant-breeders not only transplanted it but transformed it "Pima" and "Maorad," the best varieties that grow along the Lower Nile, bear no comparison with the "10964," which yields better and longer fibre. This new fine-staple cotton evolved by a Soviet scientist is taking up wider and wider areas, it has already appeared in the Kashka Darya Valley and yields fine crops in experimental fields in other Central Asian oases. It is advancing to the cotton plantations of Southern China as well, where the fraternal Chinese people quite properly call it "fine-staple Uzbek."

An infinite variety of shades of green, and, in the flowering season, as great a variety of aromas, meets you in the vast garden of the South Uzbekistan Dry Subtropical Zone Station, which occupies fully one fourth of the town of Denau. The garden contains three hundred acclimatized subtropical decorative shrubs and trees: camphor and lemon eucalyptuses, bluish-needled Arizona and pyramidal cypresses, Eldar pines, soapberry-trees, Chinese fat trees, lacquer, gutta-percha, Judas, silk acacia, and black walnut-trees, luxuriant shrubs of the melia, the paulownia, the Spanish broom with sweet-scented yellow flowers, and a multitude of other plants.

The garden has hundreds of subtropical fruit-bearing, industrial, and medicinal plants which are also being cultivated on an increasing scale in the valley. Among them are pomegranate-trees (including frost-resisting kinds evolved by Michurinists), orange-trees, forty-six varieties of the fig-tree, rubber-bearing plants (mainly the krim-sagiz), evergreen shrubs of the Alexandrian laurel and the eugenol basil, Dalmatian insect flowers, and Indian plantains.

In the Denau and Termez markets collective farmers now sell sweet potatoes—subtropical root-plants—and lentils, too, now widely cultivated in the valley. You may also come upon a collective-farm plantation of senna, a valuable medicinal plant new to these parts, or pick in a collective-farm orchard the glossy, bright-orange fruit of the persimmon-tree and enjoy its drawing sweetness.

Sugar-cane, which never grew in the Soviet Union and could apparently never grow, can now be seen not only in the Zone Station's garden but at the Hozarbag State Farm, where more than 750 acres of the best land has been planted with it. And close by, a rum factory, the first in the Soviet Union, is now in operation.

Staff workers at the Denau Station now drink with relish tea raised in their experimental field, which means that collective-farm tea plantations will spring up in various parts of the valley before long.

By crossing the walnut-tree with the pecan, Surkhan Darya researchers have obtained a variety of nut the world has never seen. It inherits the size of the walnut and the oil content of the pecan. In the nut forests of the Baisun Mountains they found a wonderful kind of walnut-tree that starts bearing in the second or third year after being planted, that is, four times as fast as the ordinary kind. By crossing it with a variety bearing large fruit, they evolved a new, early-ripening walnut.

Uzbekistan's Michurinists are transforming Nature not only in orchards but in wild fruit and nut forests as well. In the Babatag Range for one (which borders the Surkhan Darya Valley in the east) lies a forest of wild pistachio-trees, covering an area of several hundred acres, where they grafted cultivated varieties rich in oil. Today the fruits of these ennobled trees open by themselves, which is a most valuable feature of the cultivated pistachio.

From the Surkhan Darya Valley you can see the ice helmet of Khoja Piriyakh, Uzbekistan's second loftiest peak, rising above the distant Baisun ridge. The Tupalang, favourite river of the Denau fruit-growers, takes its source near Khoja Piriyakh. Not far from the village of Dashnabad, at the foot of mountains, where the Tupalang flows out into the valley, lies the home of the two best varieties of pomegranate "Kazakeh" and "Kizilonor." And in the inmost recesses of the range, where the frothy Tupalang roars down narrow gorges, the slopes are covered with groves of wild fig, almond, and walnut-trees.

In one of those walnut groves stand the white cottages of a new town built for the workers of the famous Shargun mine, where coking

coal of top-grade kinds is extracted Shargun supplies coal to the industries of Southern Uzbekistan and neighbouring Tajikistan.

As you drive along the Surkhan Darya towards the Amu Darya you come to the Jar Kurgan Oasis and the numerous derricks of a new oil-field That field came into being under interesting circumstances. Arrian, a historian of Alexander of Macedonia, wrote "When he (Alexander) was camped on the Oxus River, a fountain gushed not far from his tent, and an oily spring appeared near it" More than two thousand years later Soviet geologists, their interest roused by that statement, started searching for oil and discovered it, first in the spot described by Arrian, and then in many other parts of the valley The oil-workers of Jar Kurgan, along with the miners of Shargun, the cotton-growers of Shirabad, Shurcha, and Termez, and the fruit-growers of Denau and Sarı Assiya now represent the four leading occupations in the Surkhan Darya Valley

Men of another occupation, rare and perilous, work in the Surkhan Darya Valley and also contribute to Uzbekistan's fame, although their trade has no particular economic importance These are the hunters of venomous snakes They like nothing better than meeting a *gurza*, an echis, or a cobra The bite of any of the three is fatal unless rapid medical aid is given But do not think they hunt snakes because they want the skins for the manufacture of ladies' handbags or belts Handbags are made from the skins of less venomous or even quite harmless snakes, which hunters kill immediately As to the *gurza*, the echis, or the cobra, hunters try to take them alive so as to put them in a canvas bag, then in a box with air-holes, and dispatch them to Tashkent

In Tashkent, where the snakes are kept in cages, researchers tap their venom at regular intervals by making them bite a glass and eject their venom into it. Then the venom is dried and sent to the Uzbekistan or U.S.S.R. Institute of Experimental Medicine Weak solutions of venom are used in clinics Soviet physicians already know cobra venom to be an excellent anaesthetic The venom of the copperhead, another snake inhabiting Northern Uzbekistan, promotes blood coagulation. Cobra venom is known to have been effective in treating certain tumours

4 ON THE FRONTIER

Seen from afar, the oasis of new Termez seems a vast garden, with the smoke of the town rising above the mass of trees. On entering the oasis, you see in the fields on your right and left thousands of glittering silvery threads of water. The oasis is criss-crossed by roads that from the distance look like broken chains of weeping willows, plane-trees, or karagaches, among which racing lorries raise greyish clouds of dust.

The paved streets of Termez, straight and lined with Lombardy poplars, impart a trim appearance to the town, which is surrounded by a low wall. The frontier flows close by, just beyond the town wall. I say "flows" because the frontier is the Amu Darya, its right bank being Soviet territory and its left bank, Afghan.

The broken line of a mountain ridge stands out on the horizon south of Termez. There lies Afghanistan, a country inhabited by peoples who are tenacious workers and tenacious fighters. A proverb about their tenacity says "An Afghan who has planted a date-palm will be hanged on it rather than leave it." No foreign invaders ever succeeded in breaking the fighting spirit of the peoples of Afghanistan. Even when fighting seemed hopeless, when Afghan feudal lords and merchants deserted to the enemy, betraying the country's interests, the peoples of Afghanistan carried on their fight. And in the long run the conquerors were compelled to go.

Afghanistan's peoples have seen the peoples of Soviet Central Asia build hundreds of great canals, electric stations, factories and new cities, tens of thousands of collective and state farms, machine and tractor stations, and various cultural institutions. The majestic scene of that peaceful construction has made a deep impression on Afghanistan's peoples, who are related to the peoples of Soviet Central Asia. It sets all of Asia's peoples thinking.

Every Afghan peasant who ploughs land or fishes on the south bank of the Amu Darya, every Afghan merchant who visits the town of Termez, sees the great changes which have taken place in life in the Soviet Union.

Thirty-odd years ago the border between two states was defined there, but no dividing line existed between their civilizations, for both Afghanistan and Bukhara were feudal states

Led by the Communists, the Uzbeks started to build socialism with the same ardour as the other peoples of the Soviet land

Major construction jobs have been the milestones of that truly gigantic effort by millions of plain Soviet people. We look on its fruits as something ordinary and natural, as if things could not have been otherwise, yet even to us Soviet people they present themselves in a different, unexpected light when we visit our country's frontier

Here, for instance, is a tractor-drawn plough turning up layers of rich soil on the outskirts of Termez. The tractor is an ordinary one, driven by a young man in grease-stained overalls. Drums of petrol stand under a tree. Everything is habitual and commonplace, so what is there to look at? But when you remember that on the other bank of the Amu Darya peasants still use the *omach* (an antediluvian wooden plough) and the *mala* (a primitive wooden harrow), you look on the Uzbek tractor-driver with particular respect.

What serves as fertilizer on the other side of the Amu Darya is mainly the clay of crumbling *duvals* or street mud, and in the Herat agricultural oasis, one of the most advanced, pigeon droppings are used, to which end "settlement" pigeon flocks are kept in special towers even today. When you think of that, the prosaic superphosphate which a Shuabad collective-farm storeman weighs out for a brigade-leader is capable of amazing you as a miracle might.

Afghanistan has no railways at all. As to motor transport, there has been some on her main roads of late years. Still, camel caravans are the basic means of conveyance. As in Abd-er-Rahman's days, a bell jingles peacefully at the end of each caravan. That being so, how can the Termez folk fail to derive satisfaction from the husky whistle of a locomotive hauling a train along a railway built by Soviet people and leading from Kagan via Karshi, Kelif, Termez, and Denau to the largest new Central Asian city, to Stalinabad, capital of Soviet Tajikistan?

In Afghanistan most people are illiterate and print their finger on a paper by way of signing it. Knowing that, you look with quite a

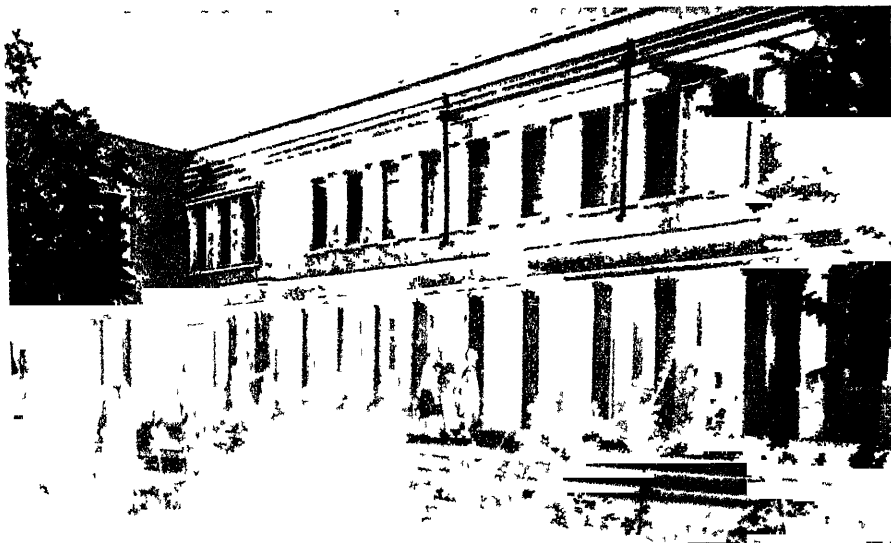
different feeling on the school-house without which the Uzbek *kishlak* of today can hardly be imagined

Few people in Afghanistan boast paraffin-oil lamps, nor does a *chirak* throw its trembling light inside very many mud-huts, half the people while away their evenings by the light of coals smouldering in the hearth. Knowing that, you realize why those lamps, which went on first at a few of Uzbekistan's collective farms, then lighted up entire districts, and which promise, within the next few years, to flood with light the whole republic, have been named "Lenin's lamps" by the people

A routine meeting of a district Party committee calls to a frank account an official who has failed to do his duty. Such a meeting becomes vividly expressive of new, unprecedented relations among people, when you recall that on the other side of the Amu Darya even the pettiest Afghan official refuses to consider a request unless offered a "gift." Before applying to anybody there, one has to "make his hand pregnant."

"I arranged the affairs of the man who gave me something, saying to him, 'Yours is a just cause,' and rendered unjust the cause of the man who gave me nothing," boasts a vizir in "Nurali," an Uzbek folk poem. How many muftis and cadis in present-day Afghanistan, Iran, the Arab countries—in all the Moslem countries outside of the Soviet Union—could say the same! That being so, how can one fail to take off one's hat in passing, say, the People's Courthouse in Denau and thus pay homage to the Soviet judges embodying the conscience of a new world, under whose laws bribery is punishable as a grave offence against the people! When you know all that, how proudly and affectionately you look, in Termez, on the Soviet frontier-troops, those valiant Soviet soldiers who staunchly guard our peaceful socialist towns and villages, our new factories, universities, magnificent buildings, and fields, particularly, the fields which have replaced the wastes of yesteryear, after being supplied with water from the remarkable irrigation canals and reservoirs built by the Uzbek people

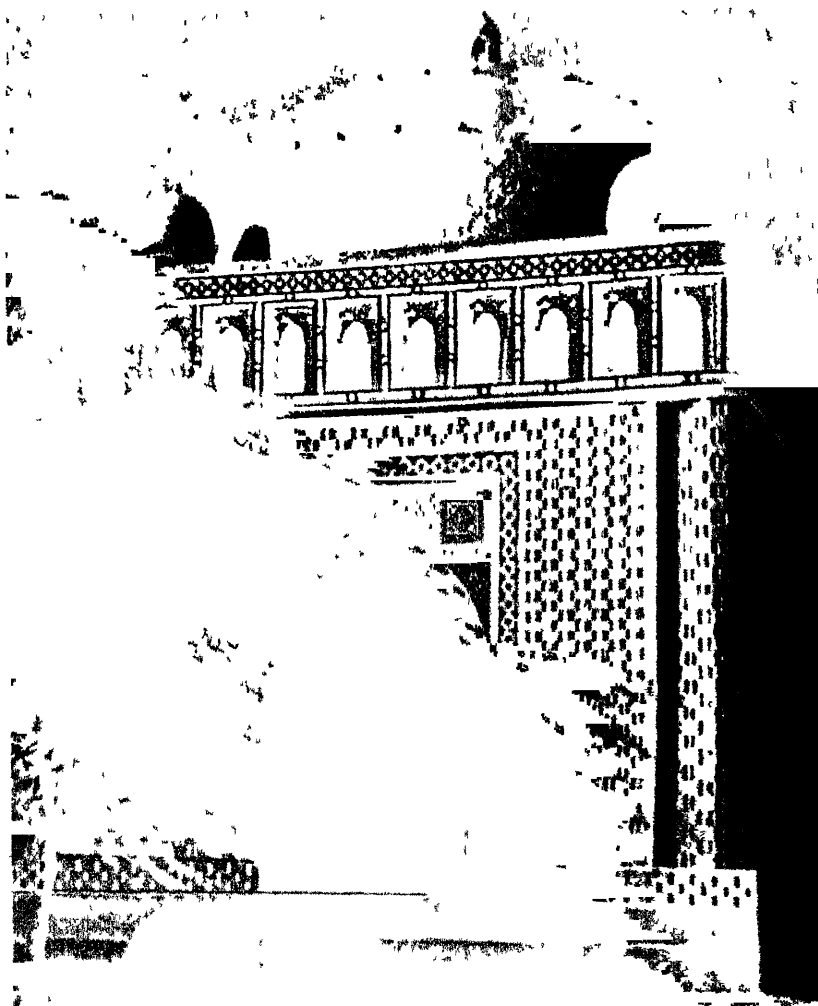
Hundreds of similar parallels occur to you as you look at Uzbekistan from the border of the Soviet land. Here every feature of the



The Voroshilov Secondary School in Bukhara



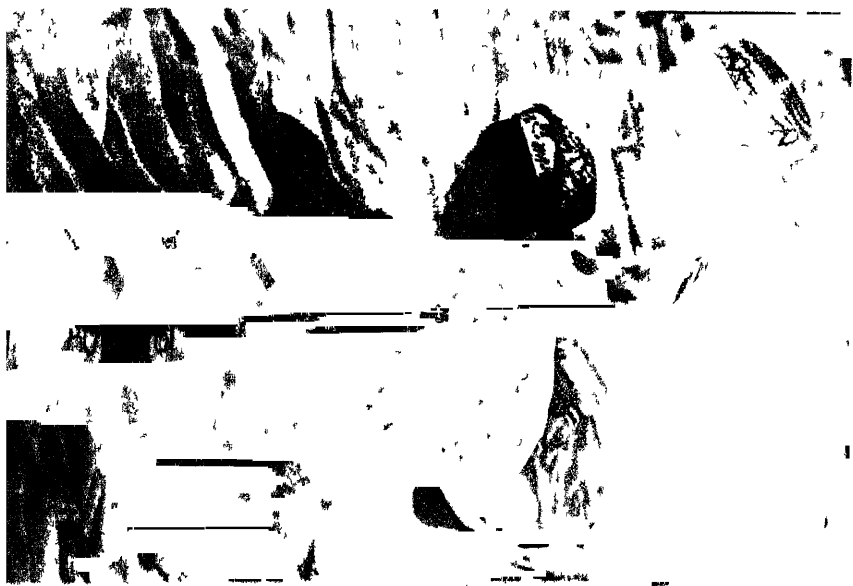
A class in the Assistant Doctors' School in Bukhara



The mausoleum of Ismail, one of the Samanids, in Bukhara



A reading-room in the Avicenna Library, Bukhara



In the finished products department of the Bukhara Silk-Winding Mill

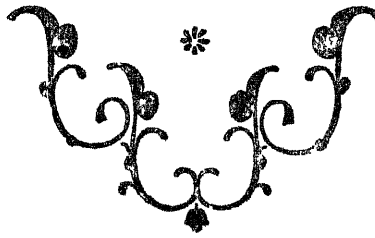


The Kalyan Minaret in Old Bukhara

new life which we have come to regard as everyday and ordinary, acquires fresh force and fullness. And as we stand facing the Uzbek land, stirred by the spectacle of the new world we have created, we feel millions of eyes behind our backs. They are looking at what our own gaze is turned to: at a republic which has raised its shining dome high above the darkness of the Middle Ages, a republic which, to use the apt, straightforward phrase of statesmen and scholars, is a socialist beacon in the East.



KHOREZM





1 THE CRAZY RIVER

Are you fond of travel? Do you dream at night of that "toilful, sometimes uninviting but free and glorious wanderer's life" of which Nikolai Przhevalsky, the distinguished Russian traveller, wrote with such enthusiasm? If that life is to your liking, if you are tempted by the adventures that lie in wait for the traveller and by the difficulties which are "soon forgotten and merely sharpen in your memory the happy moments of success and good luck"—in short, if you really care for travel, be sure to go down the Amu Darya from Termez to the Khorezm Oasis

If, moreover, you are eager to experience the whole range of amazing adventures which the Amu Darya bestows on the traveller, do not go in a rowing-boat, all on your own, or on a river boat, where you are apt to be bored, but join that close-knit family which is the crew of a steam-tug.

Do not ask the skipper how many days it will take you to get to Khorezm. You may cover the 600 miles in a week, a fortnight, a month or six weeks, it all depends on your luck. For nowhere else in the world is there a river so wayward, or shipping so strange. Only the Huai, the "river of a thousand griefs," and the Mississippi, whose whimsical temper has been sung by Mark Twain, bear comparison with the Amu Darya, the "crazy river."

To begin with, every year the Amu robs people of their fields, orchards, and kitchen-gardens. People say simply, "The Amu carried it away." All of a sudden the river rushes upon its bank, past which it had flowed peacefully for decades, and begins furiously breaking off chunks of earth, sometimes as much as dozens of yards a day.

Of all the stories about towns and villages destroyed by the river, the most recent, and hence more interesting than the rest, is that of the war between the town of Turtkul and the Amu, it is widely known and is now recorded in history books. I remember the time when a dusty road some six miles long led from the landing-stage on the Amu to Turtkul. Turtkul then became the first capital of the Kara-Kalpak Autonomous Soviet Socialist Republic and began to grow rapidly. Suddenly the river started drawing near the town. At first all the Turtkul people, except the cabmen, rejoiced because it would be so very convenient to have the landing-stage close by. Then, seeing the river come nearer the outskirts of the town year after year, they began to fear that it might eventually flood the streets. To protect the town, a special building organization was set up.

Engineers tried every possible means to protect the town. But, to quote *The Face of the Desert*, a book by the Soviet geographer Fedorovich, by the time "the Amu reached the dwellings of Turtkul, it had been estimated that the whole town was worth less than the cost of protecting it from the Amu. What was the good of continuing the effort? Instead of continuously fighting the perfidious and powerful river, would it not be more rational to devote that labour and money to building a new town—a better and larger town, situated more conveniently and safely?" The Kara-Kalpak Government decided to abandon Turtkul and to found a new capital. Thus the town of Nukus came into being.

If you travel down the Amu, you too will be struck by the freaks and bellicose temper of that extraordinary river.

Your tug steams along, her paddle-wheels churning the water. She is towing two coupled barges. Although the greater part of the Amu's middle reaches flows through the Turkmen Republic, the rivermen are almost exclusively Khorezm Uzbeks; they are skippers, helmsmen, deck hands.

The deeper you go into the desert on your way to Khorezm, the brighter and bluer the sky becomes. On the right you see the sands of the Kızıl Kum—first yellowish-grey, then orange—and on the left the grey sands of the Kara Kum. From time to time you pass a *tugai*, a broad strip of shrubs and trees entwined with hansas. Pheasants with bright feathers walk boldly at the edge of that riverside jungle, unafraid of people or ships.

Majestic and splendid, the Amu rolls on. At noon, heat waves shimmer over its muddy waters, constantly changing the outlines of distant objects, such as a tug going upstream with cotton barges in her wake, a flock of karakul sheep drinking at the river's edge, or a collective-farm *kuyuk* with a black rectangular sail flapping over it.

The green of the banks is not reflected in the Amu's reddish water, nor are the sky, the clouds, or the dunes coming down to its very brink. It was not for nothing that the Arabs named it Jihun, or "Muddy" river. If you take 35 cubic feet of its water at flood-time and evaporate it, more than 65 pounds of dry silt will be left. Besides, the water carries down streams of sand. Sunrays never flash on the crests of the Amu waves.

When your tug sails close to the bank, the green band of reeds and the dunes overlooking them rush by so fast you might think you were watching them through the window of an express train, at flood-time the speed of the Amu's current reaches four yards per second. But suddenly the hull of the tug shudders as she hits a shoal. The barges, following swiftly at the end of a very long tow, at once catch her up, the power of the current, multiplied by the helmsmen's efforts, carries the barges to the side, and they run aground a bit farther off.

If the tug and barge crews linger a little, they are lost. In less than twenty minutes an island will start to rise behind the barges. Yes, a real island! It will grow rapidly, even though it may be in mid-stream. Stumbling on it, the Amu may swerve to form a new bed as much as one mile to the side, leaving the barges high and dry. Amu rivermen could tell you any number of stories of the kind.

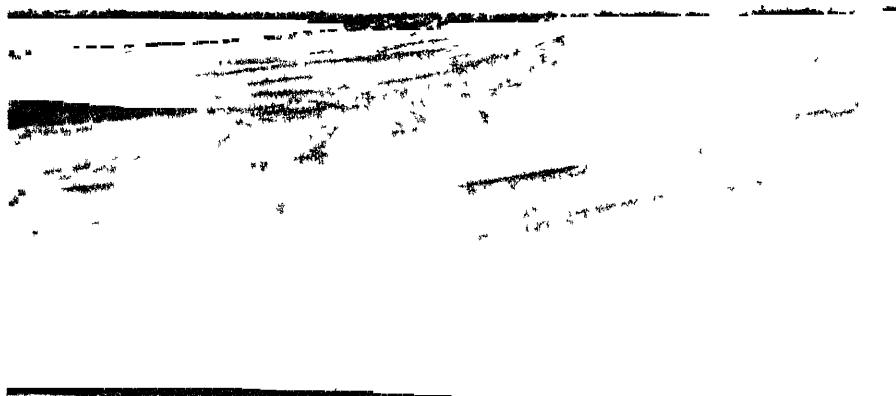
Once the "Moskvichka," a barge, got into a mess like that. The river ran one mile away from it. On the other side of the barge, as far as eye could reach, stretched the Kara Kum sands. The "Moskvichka"

was carrying a cargo of confectionery from Chaijou to Khorezm. The heat would spoil it before long, so the girls of the crew, having secured the proper authorization, opened a confectionery shop in the Kara Kum. Soon the footprints of karakul shepherds ran in dotted lines to the barge from all parts, as to a new well. It was only six months later that the Amu came back, lifted the "Moskvichka" and carried it downstream until a tug-boat found it.

But usually something different happens when a tug runs aground. The barges are uncoupled with feverish haste, and the crews, using the rudder, poles and grapnels, work to turn their prows towards the current so as to provide the least possible resistance to it. Their object is to keep the river in its bed, for, though fully 1,500 to 2,000 yards wide, it is restive and apt to swerve aside at meeting a trifling obstacle.

Meanwhile, churning mud and sand with her wheels, the tug crawls over the shoal like a giant tortoise to the nearest barge and faces it at such an angle that the water running from under her washes away the ground under the barge. Amu shipping is rightly termed amphibious. Equipped with a powerful engine, the tug spends much of her sailing time crawling over shoals, and is even capable of making headway over waterless stretches. For several hours she performs manoeuvres too numerous and complicated to describe here as she drags the barges off ground and couples them. Then she resumes her run and races on once more as fast as an express train, only to hit on a fresh shoal an hour, a half-hour or even three minutes later.

I can imagine the reader asking in surprise, "What about buoy-keepers, where are they?" The Amu *has* buoy-keepers, from morning to night they row up and down the river, taking soundings and placing markers. But the Amu moves faster than they do. No sooner have they pulled 50 yards away from a marker than the fairway shifts 100 yards. The Amu changes its fairway all the time. "Then what use are buoy-keepers?" the puzzled reader may ask. Things would be still worse but for the buoy-keepers who come up to meet the ships in the dangerous sections. By constantly watching the river, the keepers know approximately which way the main current has been deviating and which channel a ship should take to round an island. So they *are* of some use after all.



A desert landscape



Cotton-picking combines built at the Agricultural Machinery Works in Tashkent. Here they are shown working in a field of the Molotov Collective Farm, Surkhan Darya Region



Young Pioneers present with red neckerchiefs members of a delegation of the Canadian-Soviet Friendship Society who visited the Young Pioneer Palace in Tashkent in September 1953

But then why not station a dredging caravan to keep the fairway navigable? That is done elsewhere, is it not? Well—once a suction dredge was brought to the Amu and posted in mid-stream. It started pumping sand to the bank through its pipes. Then the operator happened to turn round, and he gave a gasp of amazement, for an island large enough for a stadium had formed behind the dredge in a matter of minutes. The Amu proved too free, swift, and shifty for the clumsy dredge.

And yet Soviet water-transport workers have outwitted the Amu by rendering ships fast-action assistance at the dangerous bars. If the river blocks the fairway just in front of your tug, a blasting crew hurries to her aid in a boat loaded with mines. Members of the crew throw mines into the shoal, and columns of water and sand shoot skywards behind the boat like huge candles. The tug instantly starts off, hauling the barges in her wake, every second counts, for she has to get through before the Amu blocks the way again.

Still, despite the blasting crews and buoy-keepers, no captain accustomed to any other river can sail the Amu. For it is not by markers, sailing directions, or familiarity with the reaches that the Amu captain goes primarily, but by reading the river. Yes, he reads that great book as easily as an inhabitant of the desert reads the sands.

Whirlpools among dark, seemingly convex ovals of water rising to the surface, show that the fairway is changing. Lines and circles on a bright, smooth surface are signs of shoals. A fan-shaped curve of trembling pits hints at a shoal being washed away. A captain can read every stripe on the water, every furrow and wrinkle, like the lines in a book. And as every page contains something different, if he turns his attention from the river he risks running aground. That is why ships sail the Amu only by day and in calm weather, because night darkness absorbs the designs traced on the water, and the wind erases them.

The captain stands on the bridge, in front of the speaking-tube connected with the engine-room. He gazes steadily at the river, while the helmsman's eyes are fixed on the captain's outstretched hand, which reminds you of the hand of an orchestra conductor. The helmsman's hand turning the wheel reacts at once to every movement of the captain's finger or palm. From time to time the captain waves his hand over his head, and then the helmsmen on the barges, who are also

watching his hand from afar, furiously spin their wheels. Thus the tug and her barges succeed sometimes in winding their way between the most puzzling shoals at a giddy speed.

Two gorges, the Dul Dul Ailagan and Tuya Muyun, mark the end of the road to Khorezm. Its waves twisted into braids, the Amu, foaming and whirling, rushes first through one gorge then the other. In the narrowest part of Tuya Muyun the river is only 380 yards wide.

After passing Tuya Muyun the tug finds herself once again in a wide channel. On your left, beyond the salt wharf and the bales of cotton at Shailauk, there rise dark-green rows of trees, an unexpected sight after so many days of sailing between two deserts. The farther you go, the thicker the trees become, merging into an immense garden on the horizon. That is the Khorezm Oasis.

2. TRACING THE HISTORY OF ANCIENT KHOREZM

In 1937 a U.S.S.R. Academy of Sciences archaeological expedition, headed by Professor Sergei Tolstov, the distinguished Soviet archaeologist, arrived in Khorezm. That was the first expedition of its kind to be sent there. It operated not far from present-day Khorezm, on the Kara-Kalpak side of the Amu Darya, in what is called "ancient irrigation" land. Among sand ridges and *takirs*, the walls of destroyed fortresses, castles, and dwellings—an entire ancient country in ruins—rose round the expedition's caravan all the way to the blue Sultan Uiz Dag range on the horizon.

The archaeologists roamed the streets of dead towns and villages, being careful not to tread on snakes, the sole dwellers of that desert region. Among ruins littered with fragments of pottery they picked up now and then a broken piece of some article of brass, or a whole bronze ornament, or beads, or a seal carved in stone, or figures of horsemen, or fantastic animals. In some clay buildings of the first to third centuries A. D., for example, in the Ayaz Kala fortress, they discovered the vaults of ancient passages that were still intact. That unusual phenomenon is due to the fact that the amount of annual precipitation there is smaller than almost anywhere else in the world, being less than four inches.

The members of the expedition will always remember the day when A. Terenozhkin, one of Professor Tolstov's assistants, stopped in amazement in front of the Teshik Kala fortress. Although he was looking at those ruins for the first time, he could have sworn he had seen them somewhere before. He strained his memory to recall where, and finally it came to him: on the Anikovskoye Plate.

In 1909, long before the Revolution, an ancient gilt silver plate was unearthed in the North Urals. It was named "Anikovskoye Plate" after the village near which it was discovered. Archaeologists bought it for the State Hermitage, where it is kept up to this day.

The design on the plate represents a beautiful castle. Helmeted and armed warriors stand on the castle roof. Two executed men hang from a crenellated tower. Lower down, on the terrace of the second storey, trumpeters are blowing their horns. An urn, probably containing the ashes of a hero, is being solemnly carried out of the castle. Women look down from little balconies clinging to the castle walls. Mounted warriors crowd round the castle.

Archaeologists came to the unanimous conclusion that it was an ancient Iranian plate dating back to the Sassanid dynasty. After studying the design on the plate, scientists wrote articles about Iranian architecture in the fourth and fifth centuries, an architecture which had disappeared without leaving any monuments.

Now the plate suddenly turned out to have come from ancient Khorezm, and not Iran. The ruins of the habitable tower of the Teshik Kala fortress reproduced the ground floor of the castle designed on the plate.

Soviet archaeologists realized that they were on the eve of discovering an ancient civilization unknown to the world. And as they dug they did reveal a new and most engrossing page of history.

The floods of the Nile brought into being ancient Egypt, and the vagaries of the Amu gave rise to ancient Khorezm. In Khorezm, as in Egypt, the fertile silt in the delta of the river was the soil on which agriculture reached a high level. In fighting the river, in beating off its attacks, the people created an intricate system of irrigation and tillage. It was then, in remote antiquity, that the Zend-Avesta, the sacred book of the fire-worshipping Mazdaists, was written here, in

Khavarezm ("Land of Light"), as Professor Tolstov has conclusively proved in his writings

But Khorezm civilization reached its zenith later, between the fourth century B. C. and the fourth and fifth centuries A. D. In that period a powerful state, which had a slave system of a specific kind, arose in the delta of the Amu. Several hundred fortresses, palaces, castles, and fortified country-seats dating back to that era have survived to our day. So far archaeologists have excavated only about twenty of them. But they have discovered Khorezm writing and deciphered the alphabet. They have found numerous coins, terra-cotta statuettes, countless household articles, such as pottery, shreds of fabrics, coloured rugs, tapestry, leather footwear, bronze nails, and also wheat and millet grains and grape and melon seeds. An ancient flat-cake, broken, perhaps, by one of the beauties who look down from the balconies on the Anikovskoye Plate, was found in the Teshik Kala castle. The life of a hitherto unknown ancient state has been presenting itself step by step to the eyes of Soviet researchers.

Among the ruins of Toprak Kala, a Khorezm town, Soviet archaeologists uncovered a palace of three hundred rooms. The palace contains wall paintings of the third century A. D. which are so distinctive that it became obvious at once that a new chapter in the history of ancient art had been laid open.

There you find a panel representing dark waves on a light-blue background, with white-and-red fish swimming in them, over the panel appear people and animals as well as grape clusters and leaves painted on a black or red background. You may also see, on the bluish-grey background of another panel, an armour of black plates, and above horsemen on a scarlet background. A third panel displays realistically painted pink human faces on a blue background. Other panels represent a greyish-lilac pheasant, a tiger hunt, a peaceful scene of fruit-picking, and so on. In one of the halls archaeologists unearthed a gallery of life-size statues of Khorezm kings; the statues are modelled from unbaked clay painted various colours.

Time has been wonderfully sparing towards the monuments of that kingdom. As recently as 1948, a collection of ancient Khorezm texts on wood, leather, and paper was discovered. The excavations at an-

cient Khorezm are perhaps the most interesting of all the archaeological explorations carried out in the world in recent years.

The archaeologists in the Khorezm expedition do not look into the past only. Like all Soviet people, they take a lively interest in the present, but also look ahead, to the future. And so, they painstakingly explored, sketched, and mapped the beds of ancient irrigation canals, for each of these can be rebuilt and can bring part of the desert back to life.

Thanks to their studies one of the ancient canals was rebuilt not so long ago. It now supplies water to Kirk Kiz, where collective farmers have already built villages and planted cotton, and where a new ginnyery is in operation.

3. URGENCH

One day in the summer of 1948 I stood on the porch of my hotel in Urgench (the administrative centre of Khorezm Region), admiring the sunset. The trees silhouetted against the sky were so black they seemed charred. Through them shone clay house-tops, now orange. New buildings loomed dark in the distance, their windows blood-red. Suddenly, just before fading, the scene flared up like a huge pile of coals; wherever there was clay I saw marble and gold, and I felt as though I had been wafted to one of those fabulous cities that exist in folk tales only. And at that very instant the head of a caravan came into view at the farther end of the street.

Night had fallen by the time the caravan reached the hotel. Big white bales hung on the camels' flanks.

"Mummy! Mummy!" a child's voice rang out somewhere close by, "here come the text-books!"

So that was it! The caravan was the one I had heard mentioned at the Department of Public Instruction the day before, when a schoolmistress had asked with anxiety whether the caravan would arrive in time for the opening of school. "A camel caravan carrying text-books?" you may wonder. Yes. "In this day and age?" Yes, in this day and age of television, jet aircraft, and nuclear physics.

There is a Central Asian proverb which says, "What use is the

width of the universe if your boot is tight?" Until quite recently, the Khorezm Oasis had a very tight boot: transport services. The railway station closest to Urgench was Charjou, nearly 300 miles away. The rivermen, continuously fighting the "crazy" Amu, could handle less than half the cargoes needed by the region, which was rapidly rebuilding its life on socialist lines. Sometimes even cotton had to be dispatched from Khorezm by air. Petrol had to be flown there, and you do not have to be an expert in economics to realize what that meant. An aeroplane which delivered a ton and a half of petrol to Khorezm consumed half that amount flying there and back.

Just about as much petrol is consumed by the caravans of lorries that go to Khorezm across the "blue sands," as local drivers jokingly call the Kara Kum, because of their blue sun-glasses. Besides petrol, the lorries require, in the scorching desert sun, plenty of water, especially when the wind blows from the rear. A wind like that does not cool the motor, and the drivers curse and sweat as the radiators boil, consuming enormous quantities of water. That is why, until recently, camels were sometimes preferred in Khorezm to lorries, because camels can go without water for a fortnight according to books, and a week in reality.

In Urgench I was always hearing people say. "A wireless message reports that camels with a load of drying oil passed the Kaska Kuduk well this morning," "Get a bottle of Borzhom water at the pharmacy on your way home—a Department of Pharmacies plane has arrived," "Let's put off our house-warming till a barge comes up with a cargo of wine."

This sounds strange to us who live in towns situated along railways. We do not pay any attention to the fact that goods arrive at our stations every hour, because that is as natural to us as our breathing or the beating of our hearts. But in Khorezm, transport was a tough problem, a very tough one indeed, until a short time ago.

Knowing that, you view Urgench with a very special feeling. There can be no question but that it is lagging behind the other centres of socialist Uzbekistan. But then, equipment for the six large ginneries had to be delivered to Khorezm by camels and barges. Every sheet of roofing iron was flown in. You cannot help being amazed at how much

Soviet people have succeeded in accomplishing there, not at how little they have done

They glazed their buildings, which until recently had no such thing as window-glass. They erected the Shavat Hydro-Electric Station and lighted up their town. They laid waterpipes, paved the town's streets and lined them with trees, laid out a park of tall trees, built dozens of modern factories, and dwelling-houses, hospitals, and schools. Not so long ago the show-window of the book shop in Urgench reflected camels (which stood twitching their round reddish-grey ears as books were unloaded from the bales they had brought). Even today a motor-boat gliding up the Shavat canal, which crosses the town, may come upon an old-fashioned *kuyik* with a black sail and a small mirror on its bow (in the hold of the *kuyik*, collective farmers are carrying vegetables to market). Many Urgench doctors, engineers, and other workers still live in houses built by their great-grandfathers. In short, Urgench is a town of contrasts. Nevertheless, features of the new stand out more clearly from day to day—the features of socialism, familiar and dear to the heart of every Soviet man.

Pay a visit to the Urgench Teachers Institute. On a balcony of the two-storey institute building you may meet a group of Uzbek young men and women cariving on a lively conversation about the new tall buildings in Moscow, or how one of their fellow-students, a short-wave fan, succeeded the night before in contacting the "Slava," the Soviet whaling fleet in the Antarctic. In fact, they are interested in the whole world. Universal seven-year education is being effectuated in the republic, and the number of ten-year schools is growing annually, so you can imagine how many teachers are needed. That is why every regional capital in Uzbekistan has a teachers college.

And now visit the Urgench Regional Hospital. Everything there is dazzlingly clean. In the operating-room, the steady light of matted lamps is reflected in the sterile pots and surgical instruments neatly arranged on a glass table. The room is so brightly lit that even the doctors' white smocks and the gauze screening the ventilation holes seem to glow.

Soviet medicine quickly won over the people of Central Asia. During the early Soviet years, it was often through doctors that the ideas of

socialism made their way into the remotest *kishlaks*. At that time there was a shortage of doctors, the number of rural hospitals was negligible, and medical-sanitary expeditions had to tour Uzbekistan.

Sanitation specialists in those expeditions delivered popular lectures on sanitation and hygiene. Eye specialists performed difficult surgical operations on the spot and restored vision to thousands of people suffering from wall-eye, trachoma, glaucoma, or some other eye disease. Whenever a blind man regained his sight, the doctor who had treated him won the widest popularity. At that time doctors, particularly surgeons, were often looked upon as magicians.

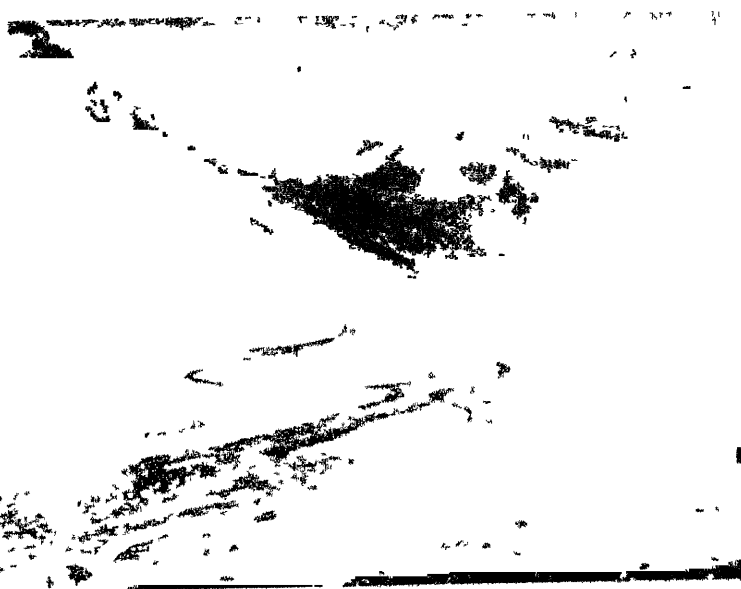
Gradually medicine became part of the Uzbek people's day-to-day life. Tens of thousands of Uzbek doctors, graduates of medical colleges in Moscow or Leningrad, Tashkent or Samarkand, took up work at the urban and rural hospitals or clinics—in all of which treatment is free of charge. They have done away completely with smallpox and cholera, epidemics of which were a veritable scourge in Uzbekistan before the Revolution. They have reduced by one half the incidence of tuberculosis in the republic, they have greatly cut down malaria and occupational diseases, and learned to combat such Central Asian diseases as pappataci, leishmaniasis, brucellosis, and dracunculosis.

For every 3,400 people in Iran today there is one hospital bed, whereas Uzbekistan has a hospital bed for every 186 people. Those two figures are different because the social systems are different. The difference stands out still more clearly when you compare factors that do not permit of numerical parallels. In Iran one has to pay for hospitalization, but in Uzbekistan, as throughout the Soviet Union, hospital care is free of charge. As to the professional qualifications of Iranian doctors, they bear no comparison with those of Soviet doctors. The Soviet doctor is always abreast of the latest developments in world medicine thanks to the periodic compulsory refresher courses he takes in any major town. Besides, every hospital holds scientific conferences at which doctors pool experience.

A characteristic feature of the Khorezm Oasis was until recently the particularly large number of correspondence students, for the oasis lay far from the railway. These were factory and office workers and collective farmers taking courses at distant colleges or universities. To-



A group of mountaineers in Uzbekistan



A view in the Hissar Range



A rice-field in Uzbekistan



Rustambobo Igamberdiyev is the oldest potter in Shahrissabz, a town famed for its pottery

day, too, when leaving Urgench by air, more often than not you are likely to encounter among your fellow-passengers a couple of correspondence students on their way to Tashkent or Moscow for end-term examinations. In recent years, people have begun to take up correspondence studies in a field hard to associate with Khorezm, namely, at railway transport schools and colleges.

Late in the winter of 1947, the stirring news spread throughout Khorezm that a railway was to be built there. It was to cross the whole of Khorezm and connect it with the Ashkhabad Railway (at Charjou), and later, by the shortest route (via Alexandrov-Gai and Saratov), with the central regions of the European part of the Soviet Union.

In the memorable spring days when prospectors started work on the route and aeroplanes dropped them posts, stakes, and tools, every collective farm in Khorezm sowed crops over and above the planned quotas, as a present for the future builders of the railway.

Towards the end of that summer more than 60,000 Uzbeks, Turkmens, and Kara-Kalpaks got to work. In one month they built the bed of the 385-mile southern section of the railway, stretching from Charjou to Kungrad, and thus won country-wide fame.

The people of Tashkent, Ashkhabad, and other cities helped the builders in many ways. They sent by air, to the Uzbekistan section of the project alone, 40 fully-equipped recreation centres, 23 wireless stations, 5 dental surgery sets, 20 hospitals, a large number of portable sound-film projectors, post and telegraph offices, and shops. They also sent concert companies and newspaper editorial and printing staffs.

When the railway bed was finished, its great army of builders went back to their cotton-fields, lathes, or desks. Then the first track-laying train got busy on the outskirts of Charjou. There began the work of laying tracks, building bridges and stations, and installing the whole range of modern equipment.

Railwaymen drew closer and closer across the sands to the Khorezm Oasis. At last a diesel locomotive shrilled at Urgench Station, announcing to one and all that the railway had reached Khorezm. From there the track-laying train moved on among houses, fruit groves, and fields to Tahia Tash, the youngest of Soviet towns. Later the railway

will cross Ust Urt, the vast desert plateau, and then the Kazakh steppes to Alexandrov-Gai

When that happens, Khorezm will change from a remote border region into a gateway to Soviet socialist Central Asia. The Kara Kum Railway will shorten the distance from many towns of Tajikistan and Turkmenia to Moscow by 750 miles.

If, in a few years from now, you chance to go to Khorezm by the new railway, get out at Urgench, walk past the station with its bustling goods offices and refreshment-rooms, and step out into the streets. You will see everywhere—both in the town and outside it—and more clearly than you can now, how life is overtaking time, how the contrasts of Khorezm are disappearing at a faster and faster rate.

4. TOWN OF FOLK ARTISTS AND CRAFTSMEN

At the regional theatre in Urgench, as at the republic's other theatres, you can see a Russian classic or an Uzbek play on a contemporary subject. But you can also see there—in a play or a concert—what cannot be seen anywhere else, that is, lively Khorezm folk dances, quite unlike the flowing dances of the inhabitants of the other Uzbek oases. You can also hear Khorezm songs and music performed on Khorezm's *tambur* or *chang*. Specific features of Khorezm art are also reflected in the costume of both performers and audiences.

Many of the girls attending a play wear lovely *tubeteikas* embroidered with varicoloured beads and silk on claret-red velvet. Some of the collective farmers in the audience wear dark-red robes. Those garments, the plaster-work in the theatre and the other public buildings of Urgench, the distinctive local rugs, *kumgans*, crockery and other handicraft articles, which you come upon nearly in every Urgench home, are made by craftsmen who live in Khiva, Khorezm's second largest town and capital of the former khanate.

It is 20 miles from Khiva to Urgench. A bus line connects the two towns. In Khiva the bus stops near a new *chaikhana*, close by the town's gate. Overlooking the *chaikhana* is the grey clay town wall, so wide you could drive along its top in an *araba*, and flanked by monumental towers, likewise of clay. The carved wooden leaves of the gate

are fitted with heavy black plates of metal. The wall encloses Ichankala, Khiva's citadel which boasts splendid specimens of Khorezm folk architecture and handicraft.

In Ichankala stands the Kalta Minar, an unfinished minaret, exceedingly broad and elegant, encircled by dark-green and blue belts of tiles, it glitters in the sunshine, towering over the grey house-tops like a colossal, fabulous barrel. Over the whole of Ichankala, hawks circle tirelessly over the Kalta Minar and the other minarets, over the blue domes of mosques and mausoleums, the roofs of palaces, and stone vaults of the market; over the cemeteries in the central section, and the chaotic tangle of streets, lanes, and blind alleys, some so narrow that not even two donkeys can pass.

Probably nowhere else in the eastern world is there a town which has retained its mediaeval appearance to such an extent as Ichankala. That is due to the fact that immediately after the Revolution half the buildings of Ichankala were declared museum values, and that the Khorezm Oasis, separated as it is from the rest of the country by immense deserts and lying far from the railway, developed more slowly than Uzbekistan's other oases. Besides, when the new life, all-pervading and all-conquering, burst into Khiva, it set about first of all pulling down the outer town wall as it built modern roads and erected, on large sites round Ichankala, an oil plant and a cotton mill, vocational schools, clinics, stadiums, clubs, secondary schools, and new premises for the renowned Khivan handicraft co-operatives.

Khiva has now become Uzbekistan's greatest handicraft centre, as Palekh has in the Russian Federation. It is not without reason that the fourth five-year plan of the Uzbek Republic paid a good deal of attention to the work of Khiva's folk artists, to furthering arts and crafts in the town. Working in the Umid, Gulistan, Uchkun, and other co-operatives are remarkable wood- and stone-carvers, *ganch*-carvers and modellers, jewellers, engravers, rug-weavers, tile-makers, silk and velvet embroiderers, and makers of artistic metal and ceramic ware.

Take a stroll through Ichankala in the company of Ruzmat Masharipov, a connoisseur of Khorezm ornaments, or Bibijan Jumabayeva, a skilled Turkmen rug-weaver who has moved from nearby Tashauz to Khiva, where she has taught her art to dozens of Uzbek women, or

Nurmetov Usta, a *gunch*-carver, or any other Khivan craftsman, and then you will see the Khivan citadel as you should, that is, with the eyes of an artist. You will be shown colourful, unfading tiles in Khiva's palaces, mosques, and mausoleums, wooden pillars and doors graced with intricate fretwork, patterned grailings, and skilfully painted plafonds. All that is the sum total of the Khorezm people's work-experience, which is a thousand years old. But when you ask the names of those who erected and ornamented the palaces, at best your guide will recall Usta Abdullah, who lived in the 18th century and was nicknamed a *jinni* by his contemporaries for his amazing art. The names of other artists are forgotten, besides, they were hardly known even in their time.

One of Khiva's districts is called Gadailar. Before the Revolution it was inhabited by professional beggars. Those were wealthy beggars, who made fortunes by begging. The names of the richest among them were widely known in pre-revolutionary Khiva, where mendicancy was looked up to and was sanctified by religion, while work was not respected. Today working people live in Gadailar as elsewhere in the town. Khivan craftsmen build for workers and doctors, teachers and engineers in Khiva and Urgench, beautiful *ong aivans*, special terraces which on sultry summer days catch refreshing air currents and channel them downwards. Khivan wood-carvers adorn the *ong aivans* with wooden pillars, ball-shaped below, covered higher up with large festoon-like figures, and entwined on the top with slanting rollers.

Khiva's masters now are working people, and the most celebrated persons in the town are folk artists. The whole Khorezm Oasis is familiar with the names of the best handicraftsmen of Khiva. As to Ata Palvanov, Stalin Prize winner, a famous artist who made the fretted doors of the new Opera House in Tashkent, or Abdullah Baltayev, Stalin Prize winner, a specialist in fine ornamentation, who decorated the Khivan Hall in the Opera House, or Khudaibergenov, a skilled stone-carver who carved a magnificent stone slab in that hall—they are known throughout the republic.

5. TAMING THE AMU

Imagine a camel with a hump hanging to one side and a head covered with matted hair. A worn *tubeteika* screens each of its eyes, and a rag is wrapped round its head, on top of the *tubeteikas*, so that it can see nothing. Its lip hanging down and its bony legs wide apart, the camel walks round and round, turning a huge wooden wheel fixed horizontally. From time to time the cameleer swings his lash to urge the weary beast on. An antediluvian system of wooden wheels draws water from a canal in earthenware jugs and pours it into a trough. The muddy streamlet of water rushes down the trough into an *arik* and on to the nearest field. That is how a Central Asian *chigur* works.

Today there are scarcely any *chigurs* in the Khorezm Oasis. They have been replaced by horizontal pumping units designed by staff workers of the Central Asian Irrigation Research Institute and made in Tashkent. But only fifteen years ago there were forty thousand *chigurs* here. One could not get away from their long-drawn, dismal creaking which had become something like the voice of Khorezm.

The *chigur* was just one of the weapons which the people of Khorezm used for thousands of years in their bitter fight against the "crazy" Amu. In the low-water season the Khorezm Oasis lies higher than the Amu, as though on a plateau, and water has to be raised to the fields. On the other hand, at freshet time and during the winter blockings, the Khorezm Oasis lies below the level of the mighty Central Asian river, as in a hollow. The Amu would have flooded all Khorezm and washed it away a long time ago but for the fact that in antiquity the people had shut it off by a colossal dike and raised earth embankments along the major canals. All in all, the dike and the embankments are more than 250 miles long.

As of old, scouts pace up and down the walls of that immense "fortress," keeping a watchful eye on the manoeuvres of the wayward river. Besides, they plant poison to kill susliks and other burrowing animals that make holes in the dike. As soon as a scout signals the danger of a break in the dike, tens of thousands of people—mostly collective farmers and agronomists—leave their work and, taking up

rush mats, *ketmens*, and shovels, hasten to the river. More often than not they succeed in repulsing the Amu.

Sometimes, however, its raging waters burst into the oasis. Everyone in Khorezm remembers how the Amu invaded Gulistan District several years ago. The whole population was mobilized to fight the river. Working in the seething water, the people (there was a veritable avalanche of them) finally stopped the breach and repaired the damage.

But even on ordinary days in the freshest period, when there is no hint of calamity, when water from Khorezm's canals flows peacefully to the *ariks* along wooden pipes laid through the embankments (after a field is irrigated, the pipe is plugged)—even on such days the local folk continue their battle with the Amu.

Look at the cemeteries. Why are the characteristic piles of large stones over the graves built so broad and, above all, so amazingly high? Because in Khorezm the dead are not buried in the earth but above a stone foundation. The Amu is to blame. When it rises, ground water in the oasis also rises, and those who wanted to bury their dead would be compelled to lower the bodies into water.

Things would not have been half so bad if it were a question of cemeteries only. What is much worse is that the ground water carries salts to the surface soils, constantly increasing the alkali concentration. In former times the people of Khorezm used to safeguard themselves against that by taking off their fields a portion of the alkali-fied topsoil and piling it up. Little by little the soil in the piles would be leached by the rains. Then they added dung mixed with sand to it and spread it out again in the fields to replace the next portion of topsoil they stripped. Thus they changed the whole of their soil every two or three years.

Today Khorezmians recall that Herculean work with a smile, as though it belonged to pre-historic times. The soil is now washed by drainage systems and other modern methods used in socialist land reclamation. Naturally, that also requires painstaking work.

And yet neither drainage, nor even the former process of changing the whole cultivated layer of the soil, bears comparison with the truly titanic effort which until recently the people of Khorezm put year after year into the famous *kazu*, or "search for the run-

away river " When *jarchis*, or special public announcers, spread word of a *kazu*, the entire male population of the oasis took up their *ketmens* and made in a motley mass for the head sections of their main canals

From of old every canal in Khorezm—the Hazavat, Palvan, Shavat, and the others—had several heads. That was because the Amu constantly changes its course, now coming closer to Khorezm, now running away from it. You can track down a runaway river in the same way as you can track down a runaway camel, but you cannot bring the river back. So, in chasing the "crazy" Amu, the people of Khorezm had to resort to a ruse by digging several heads for every canal. They acted upon the simple calculation that if the river ran away in one place, perhaps it might come closer elsewhere and give them a chance to catch it. Countless *ketmens* would swing up above the earth dam of a reserve head, the dam would be pulled down, and the water would rush into the canal. And an hour or three hours, or three days later, the Amu would run away, and the Khorezmians had to catch it at another head. Thus they tirelessly chased their wild river.

But even after the fields were watered there was plenty of work left: the canals had to be cleaned of silt. Every year the people of Khorezm had to move more earth than the builders of the Great Fergana Canal did. Until a decade ago, a collective farmer had to put in more than a hundred workday units a year into cleaning and repairing the irrigation network. The river took away half a man's life. And so, the Soviet State had to free the people of Khorezm from bondage not only to khans and *bais* but to the Amu as well.

Instead of the more than a dozen heads of the three biggest canals—the Hazavat, Palvan, and Shavat—it built the single Tashsaka system of head gates, abolishing for ever the "search for the runaway river." *Ketmens* had been unable to bring back the Amu, but blasters and powerful suction dredges working at the locks return it as soon as it tries to run away. The other Khorezm canals, including the Bozsu, Kipchak Arna, Klich-Niyazbai, Soviet-Yab, and Mangit Arna, were also united in two new systems. Besides, Soviet engineers rebuilt the irrigation network and dug new spillways, creating a chain of lakes to safeguard the Khorezm Oasis against the Kara Kum sands.

But that was not all that was done to free the collective farmers from bondage to the Amu. It set up the Khorezm Excavator Station, and the grinding maws of excavators began cleaning the main canals of silt.

Yet that was not all, either.

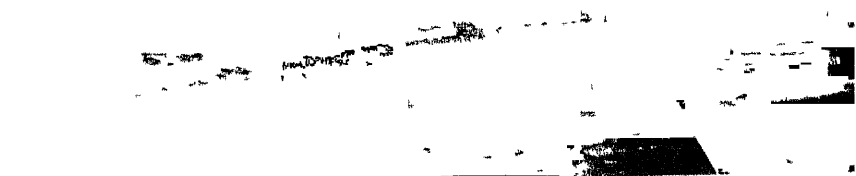
Scientists estimated that a dam erected below the Khorezm Oasis would free man from the power of the river and simultaneously bring the river under his sway. The dam would tame the furious Amu, which would then flow across Khorezm on an unchanging level and down a permanent bed, and the people would be freed for ever from the necessity of washing the soil again and again, from floods, from camels turning *chigirs*, and even from horizontal-propeller pumps raising water to the fields.

The dam would also improve navigation over a considerable stretch of the Amu Darya. As for the problem of navigation on the whole of the great Central Asian river, that will be solved later, when the Soviet people, led by the Communist Party, have built, about 600 miles above Khorezm, head structures to water the Karshi Steppe, and the two reservoirs of that irrigation system—another two of the new seas that are being created in the Soviet Union. Then the Amu will submit to slide-rule calculations. The lock-controllers will give the river exactly as much water as it needs to flow calmly down a permanent narrow channel. At the two spillways of the future reservoirs in the Karshi Steppe, dispatchers will control the middle course of the "crazy" Amu, which will become a docile, peaceful river. It will have a permanent fairway, marked at night by buoy lights.

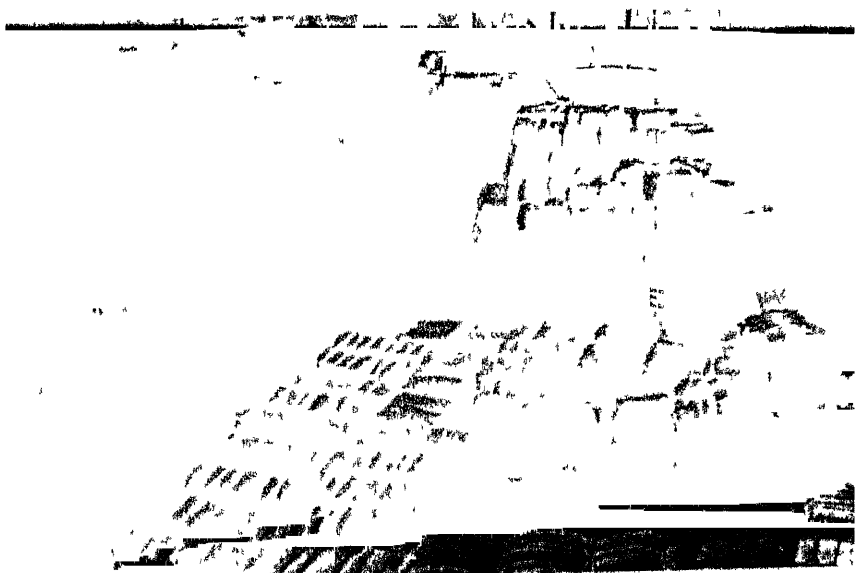
The problem of irrigating arid tracts will also be solved. The time will come when Amu water will restore to the Khorezmians the land of which their forebears were once robbed by the sands.

Besides, that water will wrest from the sands virgin desert land by covering it with fertile Amu silt. In places where today a shepherd's dog does not dare to lie down on the heated sand, but digs a hole to get to a cooler layer, water will ripple, and the leaves of those trees and shrubs for which Khorezm is famed will rustle.

Cotton cultivation—not to mention other crops—will then be practicable on hundreds of thousands of acres along the Amu's lower



A barge caravan in the Aral Sea



Transporting cotton down the Amu Darya



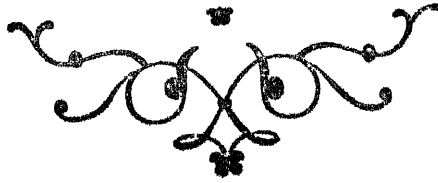
The Pedagogical Institute in Urgench

reaches And cotton-growing, the reader will remember, is dear to the Uzbek people, it makes up their policy and their poetry, and is one of their contributions to the building of communism Its importance is brought out in the Law on the fourth five-year plan of the Uzbek Republic, which says. "Cotton has been and will be a material expression of the inseparable bond and indestructible friendship between the Uzbek people and their elder brother, the Russian people, as well as the other peoples of the Soviet Union."

"Material expression of friendship" is a poetically forceful and accurate phrase. It is clear to every Soviet man and woman that friendship built on so strong a basis cannot be shaken.



LAND
of
THE
KARA~KALPAKS





1. NUKUS

Ask anyone who has visited or lived in the Kara-Kalpak Autonomous Soviet Socialist Republic what his first impression was of Nukus, the capital, and he will be almost certain to say something like this: There is a great deal of air, light and space, and far, far below the wings of your plane (you have to fly to get to Nukus), on yellow, porous soil, you see a small network of green streets and toy-like houses.

You cannot get rid of a feeling of the town's diminutiveness even when you are in its streets. But that is because Nukus is young and unfinished. The foundation-stone of the first house was laid in the midst of a wide sunlit steppe shortly before the Great Patriotic War.

As you walk down a Nukus street you see now and again a motorcycle or a lorry race over the cobbles, or a camel stalk by, pulling a cart. The roadway is bordered by two trembling rows of trees that shade the asphalted pavements. Grey patches of vacant lots smelling of bitter steppe grasses appear between single- and two-storey houses. Occasionally a lizard darts out of a lot and races across the street in such a hurry as if the heated cobbles were burning its feet; it climbs a telegraph-pole and relaxes on the shady side, its mouth agape.

The forest and park shelter-belt round Nukus is still too young to offer much protection against the Kızıl Kum sand-storms. In summer, a hot whirlwind rushes from the desert into the town every day, almost at the same hour. The streets empty instantly, and windows are shut

tight. The air grows dark with dust and flying sand. After raging for half an hour or so, the whirlwind dies down as suddenly as it started. Doors swing open and women appear at the windows, dusting the sills.

The town is not completed yet and therefore lacks certain amenities. But it is not an ordinary town, it is the capital of a people which had no towns at all a relatively short time ago.

Scattered over the steppe and living in miserable mud-huts or poor wind-beaten *yurts* with "sixty holes for windows," the Kara-Kalpak people were dying out. They would have soon disappeared altogether but for the Great October Socialist Revolution, whose very first results were at once summed up by the people in these winged words. "Those who were expected to die are not dead. Death overtook the ones who wore fox-fur coats." The revolution saved the Kara-Kalpak people from extinction. Villages and towns sprang up in the Kara-Kalpak steppes, and the whole people moved out of "sixty-windowed" *yurts* and crumbling mud-huts into new, modern houses.

In Nukus, as in the republic's other towns that have risen in the steppe, you may see even today an old *yurt* standing in the court-yard of a house, it is a tribute to the habits of aged parents, whose life is drawing to a close. Not so long ago the imprint of the *yurt* was still felt inside the new houses, where a heavy trunk took up the most conspicuous place, patterned or plain *koshmas* of thick felt spread on the floor served as sofas, or the table stood in such a way as though it were about to be carried out. At the beginning, the new household articles were not all put in their proper places, which imparted an unusual appearance to the rooms. But gradually the Kara-Kalpaks living in their new houses developed new aesthetic tastes and habits. They were creating the town and the town, in its turn, was shaping them, making them doctors, teachers, writers, artistes.

The Kara-Kalpaks were not just creating a city in the desert. They were simultaneously bringing into being new centres of life—oases, villages, and the very earth on which they built their villages.

It seemed that they would never succeed in making that earth fertile. Here is a detail to illustrate this. Everyone knows that the ordinary earthworm plays an important part in making the soil fertile, because it swallows earth and then ejects it, changed and enriched. But there were

no earthworms in Kara-Kalpakia, they cannot survive there because of the soil alkalinity. Young Kara-Kalpak researchers, in collaboration with Moscow and Leningrad colleagues, made innumerable experiments and finally discovered the larvae of certain insects which can perfectly replace earthworms in Kara-Kalpakia. Tens of thousands of those larvae and worms of other kinds were flown to Kara-Kalpakia from various parts of the Soviet Union to help the people build up their land.

When fruit-trees were planted in the new towns, most of them would bear no fruit at first. There were almost no insects there to pollinate the orchards. Then bees were rushed to Kara-Kalpakia by air. Beehives appeared in the orchards, and the boughs soon bent under the weight of apples, pears, apricots, and plums. Thus bees, too, helped the people to build up their land.

It is interesting to note that bee-keeping has become highly remunerative in Kara-Kalpakia. The most wide-spread plant there is the *yantak*, or camel's thorn. Only camels could eat those plain thorny shrubs. But they have turned out to be an excellent source of nectar, and now bees feed on them too.

What the Kara-Kalpaks needed more than anything else to build up oases and towns, however, was water. "He has no water of his own" was a Central Asian saying which implied extreme poverty. The Kara-Kalpak people had no water of their own. So they set about building large irrigation installations: the huge Kız Ketken and Lenin canals, stretching away to the left and right of the Amu, and dozens of smaller canals. I shall tell you more about those canals when we tour Kara-Kalpakia. Now I shall only say that the heart of that large-scale constructive effort, the centre to which people flock from all over their immense sunlit steppe to acquire new trades and skills, is Nukus, Kara-Kalpakia's young capital.

It is the capital of a people which had no industries either. Today Nukus has a lucerne-cleaning factory (it cleans the seeds of lucerne sown along the lower reaches of the Amu, that is, in Kara-Kalpakia and Khorezm), and machine-repair and motor-repair plants, a textile mill is being built. These are the largest enterprises. Besides, there are—in operation or under construction—dozens of others which are as a rule taken for granted when describing a town, a garment and footwear factory, a creamery, brick and tile yards, a brewery,

a bread plant, and so on. While in other towns such enterprises came into being gradually, one by one, in Nukus they had to be built simultaneously. The residents proudly show them to visitors.

Nukus is the capital of a people which virtually had no written language, Beidakh, a famous poet, and a few others used the Arabic characters to write poetry or draw up documents in their mother tongue. Throughout centuries the Kara-Kalpak people could find an outlet for their creative talents only in oral art, producing an extraordinary wealth of fairy tales, songs, and epics. Their dream of free and powerful man, of man who has subdued Nature, gave rise to tales of magic and the famous epic poem *Kirk Kiz*.

"Man's tongue can split even rocks" is a proverb in which the Kara-Kalpaks have expressed their conception of the power of the word. It was not by mere coincidence that one of the first buildings erected by the Kara-Kalpaks, in the very heart of their new capital, was a printing plant. From there newspapers, magazines, text-books, the classics of Marxism-Leninism translated into Kara-Kalpak, books by great authors and by young Kara-Kalpak writers began to flow to all parts of Kara-Kalpakia. Thousands of graduates of the Teachers Training School and the Teachers College in Nukus set out for the steppes to bring the newly-created Kara-Kalpak written language to everyone. The whole steppe became one vast school and laboratory.

Folk art, too, played an important part in the cultural revolution. Staff workers of the Kara-Kalpak Institute for Research in Economy and Culture (attached to the Academy of Sciences of the Uzbek S.S.R.) which created the Kara-Kalpak alphabet, began studying and recording folk epics, tales, and songs. Kara-Kalpak folklore and Russian classical plays were the cradle of the Stanislavsky National Music and Drama Theatre and Theatre of the Young Spectator. Leading folk singers, musicians and folk-tale narrators founded the Nukus Philharmonic Society.

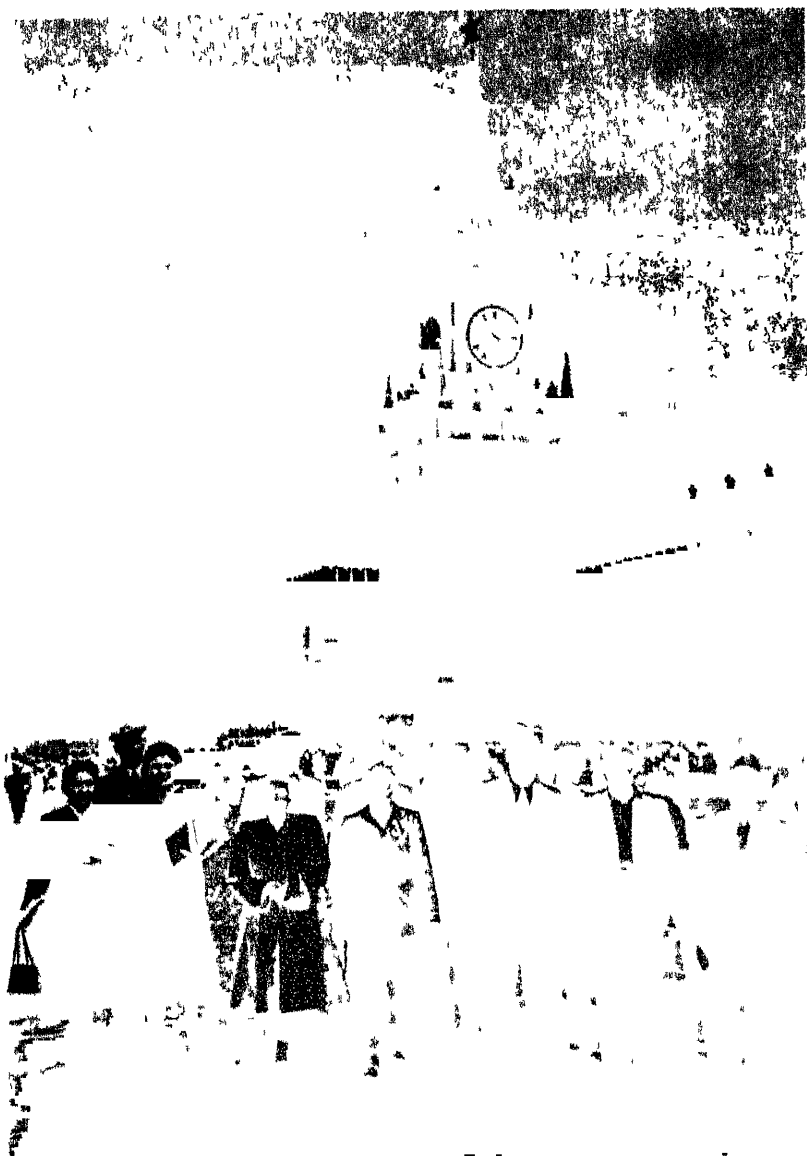
Not so long ago folk singers sang that life was so narrow they had "a narrow bed instead of the steppe and a stick instead of a *dombra*." Today they extol Soviet irrigation men who are carrying into effect the people's boldest dreams about "giants who squeezed water out of clouds;" they extol the power industry workers who are dotting the republic with wind-motors and turning into reality the dream about the



A collective-farm wireless-relay centre



Breakfast-time in the kindergarten of the Red Uzbekistan cotton-growing collective farm



Uzbek Deputies to the Supreme Soviet of the U.S.S.R. in Red Square, Moscow

"giant who blew with such force as to make the enemy's troops retreat" But most of all they extol the Communists who helped the Kara-Kalpak people to build up a land in the barren steppe and, like the fabulous hero, "create overnight new orchards, palaces, and towns on this land"

2. KARA-KALPAKIA'S AIRWAYS

There is a place in Kara-Kalpakia that every inhabitant of the republic knows, a place where acquaintances are made, where friends meet or part, where an hour's chat can give you a notion of what is going on throughout the Kara-Kalpak Republic, although it is so large it takes up nearly half the area of Uzbekistan. That place is Nukus Airport.

Kara-Kalpakia is a region of aviation. Air travel there is commoner than anywhere else, it has become the most ordinary means of communication.

Who comes to Nukus by plane? A collective farmer bound for a republican conference of livestock-breeders, a student going to join his family for the May Day celebrations, an old woman visiting her son who works in Nukus, a Young Pioneer coming to buy a new bugle for his detachment; a Yangi Yul collective farmer who will teach Kara-Kalpak collective farmers the fine points of cotton-growing, a Moscow professor of geology who has lost his heart to the region and flies there every year for research, a Tashkent engineer who is designing a confectionery factory. . .

Outbound aeroplanes may carry a young civil engineer on his way to one of the republic's districts to help build a large oil plant; an archaeologist seeking monuments of ancient Khorezm civilization in the Kizil Kum, a sick man going to Kegeili for the curative muds, or to Takhta Kupir, another health resort, which provides koumiss treatment, a doctor summoned by wireless to the bed of a shepherd taken seriously ill. . .

Everyone in Kara-Kalpakia knows Dr. Urazmet Khalmuratov, the surgeon. A "flying doctor," he has travelled hundreds of thousands of miles by air. Indeed, all of Kara-Kalpakia's doctors are flying doctors.

Nearly every Kara-Kalpak knows what his country looks like from the air. The powerful brown artery of the Amu Darya crosses it in the

middle, in the heart of the republic, slightly below the Khojeli landing-stage, it fans out in a giant delta and flows to the Aral Sea through thickets of reeds. Above Khojeli, a narrow green strip stretches along both banks of the Amu; beyond the strips lies an ocean of grey steppe and yellow and red sands.

When you fly southwards from Nukus you follow the Amu, outlined among the sands below. Thus is how Academician Alexander Fersman, who first flew over the Amu in 1929, describes it. "Now it is dark-red, the colour of blood, bordered by steep banks, now edged by black expanses of *tugai* thickets, now bright and shining, now glistening like steel and dotted with black *kuyiks*."

Midway between Nukus and Turtkul, you can see a powerful ridge of the Sultan Uiz Dag Range extending across the Kizil Kum. Soviet geologists—Fersman's pupils—have given that range, and several smaller ranges which seem to rise from the depths of the sands, the name of Uralo-Tien-Shanides. They have proved that the Ural and Tien Shan ranges constitute a single powerful mountainous mass which in the South Urals sinks gradually into the ground, to re-emerge as the western spurs of the Tien Shans. The Sultan Uiz Dag Range is the crest of that mass, thrusting up here and there from the Kizil Kum sands.

In that range geologists have discovered and investigated deposits of limestone, gypsum, marble, granites, quartzites, marls, asbestos, yellow and red ochre, and graphite. Some of them are now being worked.

The Kara-Kalpak portion of the Kizil Kum begins beyond the narrow strip of irrigated land extending along the Amu near Shabbaz and Turtkul. When flying over the Kizil Kum, you have an impression that the universe consists of two parts: the blue sky and a reddish-yellow earth. But no sooner have you landed near the wind-power installation of a well than the desert reveals itself to you in all its majestic variety.

The sand crunches under thousands of hoofs as a flock of karakul sheep comes up to the well. The haughty camels of a newly-arrived caravan fold their legs and sit down when the camelcoers call a halt. The ripples on the surrounding dunes give them the appearance of large shells, they make up a delicate and simple desert ornament.

Try to dig up any of the shrubs showing dark on the dunes. You will work hard all day without ever coming to the ends of the roots. Some

desert plants have roots going down as far as sixty-five feet—the water-supply system by which they draw the moisture stored in the sand.

Besides the usual vet or stock-breeder, you may encounter near the well a staff worker of the Kara-Kalpak Experimental Station for Research in Livestock-Breeding which works on problems of grass-sowing in the desert. The seeds of many desert grasses are now sown from aircraft, they include *kuyak* (sand barley), *irkek* (sand couch), *yantak*, and numerous others. Not far from the well you can see a plantation of *kumarchik* in the sands. In former times, too, desert dwellers used to gather the fruit of this plant to bake flat-cakes, for *kumarchik* equals wheat in nutritive value. Now work is being done to improve the plant and raise its yield.

Socialism has come into the day-to-day life of Kara-Kalpakia's shepherds, too. The times are long past when they were isolated from the rest of the world for weeks on end. Now there is a two-way wireless communication between the flocks and the collective farms. A mobile library travels across the sands from flock to flock, and so do mobile film projectors and concert companies. Deep in the desert, shepherds tune in to broadcasts on collective-farm wireless sets of the KRU-2 type, for which power is generated by a small-size wind-motor. Mail planes make the round of the desert. In short, life there is active and full of broad, stirring human interests, as it is throughout the Soviet land.

When flying northeast from Nukus, you can see below, on a background of greyish-yellow steppe, a row of new oases that appear as green patches of irregular shape. That is Kara-Kalpakia's largest cotton area. The Kiz Ketken Canal, built in 1938, transformed 160,000 acres of arid land in Chimbai District into plantations of cotton, lucerne, and rice.

Water means more in Kara-Kalpakia than elsewhere in Central Asia, because it has almost the world minimum of precipitation. Its yearly share of rain and snow does not exceed the amount of moisture brought down by an ordinary rainfall in the central zone of Russia. That is why researchers at the Chimbai Agricultural Experiment Station have to master afresh the cultivation of every crop, adapting it to local conditions, developing new cultural methods, and carrying out selection work anew, before they can recommend that crop to collective farmers.

Reddish *duvals* are all that is left of the old, pre-revolutionary Kara-Kalpak settlement of Chimbai, they rise with the pride of old age at the roadside in Chimbai Steppe, which is covered with hullocks and looks like worn karakul. Now Chimbai is a town. Collective-farm lorries race past the *duvals* on their way from new oases to the Chimbai Cotton Mill, to the building site of a cottonseed-oil factory, or some other factory in the town. Chimbai boasts many new dwellings and other buildings, including the House of Culture, two cinemas, three hospitals, and a library.

At any Chimbai collective farm you will meet growers of cotton, fruit or rice who have already acquired fame as specialists, although they took up those crops a short time ago. Collective farmers will show you an experimental plot in a vineyard or an apple orchard laid out in what for centuries was thought to be barren steppe.

But I must say a few words about Kara-Kalpakia's soil to enable you to fully appreciate the vast importance of these initial small oases, and to realize that every vine or apple-tree raised there is a veritable milestone in the history of the Kara-Kalpak people. So far all those fields and orchards, irrigated by the Kara-Kalpaks during the last years, make up only a little more than one per cent of the republic's area.

You may travel across the republic for weeks and find nothing but wells of brackish water. Academician Fersman wrote in his travel diary: "For many hot, burning days all you can have is a *piyala* of stale, brackish water, and for weeks on end you do not see the smooth surface of that calm liquid mineral, or hear its sonorous ripple. It is not until then that you come to know and value H_2O , that remarkable chemical combination without which there can be no life, happiness, or wealth—not a thing."

But Kara-Kalpakia, especially Shumanai Steppe on the left side of the Amu, was not always arid, forbidding and sparsely inhabited. Hardly discernible remnants of ancient irrigation systems, interspersed at frequent intervals with the white patches of salt marshes, extend for hundreds of miles in that steppe. There is a legend about those patches. It says that long ago, when there was water here, the rich demanded a price for every drop of water. The tears of poverty-stricken peasants burnt the parched soil and made the water brackish. Then the leaves fell off the trees in the orchards, and the grasses drooped to the ground. And nothing was left on the land but the salt of human tears.

When you fly west from Nukus, you can see, after you have crossed the brown band of the Amu, a string of new cotton-growing oases in Shumanai Steppe as well. They are irrigated by the Lenin Canal and run as far as Kungrad. Besides cotton, the oases produce lucerne, rice, and fruit.

One day I chanced to hear an interesting argument at Nukus Airport. While awaiting their plane, two business executives, one from Chimbai and the other from Kungrad, were discussing the problem of water. The Chimbai man contended that it was more rational to use water for cotton-growing, while the man from Kungrad came out for livestock-breeding. After lengthy calculations the two came to the conclusion that 35 cubic feet of water spent on growing cotton in the desert yields about 3.5 ounces of raw cotton, whereas if spent on stock-farming it yields approximately five pounds of wool, ten litres of milk and 17.6 pounds of meat and fat. Of course, the two appreciated the importance of both cotton and animal produce. As in Chimbai District, the collective farmers of Kungrad District strive for high cotton yields. But so far Kungrad is famed primarily as a major stock-breeding centre.

The republic's longest airline runs northwestwards from Nukus via Kungrad to Churuk Well, in the middle of the famous Ust Urt Plateau.

Ust Urt is a colossal clay desert, completely uninhabited until recently. The Kara-Kalpak used to call it "a desert so desert you will not even meet an enemy there." A new-comer is struck by the bleak landscape of Ust Urt. On the undulating plain spreading far and wide, he sees nothing but puny shrubs grey with dust. The surface of the clayey ground shines in the sunlight, and the whistling wind sweeps sand into heaps.

At the time of the national delimitation of Soviet Central Asia, the boundaries were drawn so that Kazakh and Kara-Kalpak villages came within the areas of the respective republics. But in those days Ust Urt had no population at all, so it was simply cut in two along the fifty-eighth meridian, Kazakhstan getting one half of it, and Kara-Kalpakia the other.

Several years later Churuk Well, the first settlement, sprang up in Kara-Kalpak Ust Urt. Its early inhabitants were three meteorologists. They were in a way like people at a polar station, because their only link with the outside was an aeroplane which arrived on rare occasions.

Then the first scientific expeditions appeared in Ust Urt. Using aerophotography, geographers mapped the plateau. Geologists discovered deposits of salt, lithographic stone and mineral dyes, as well as indications of coal and oil deposits. Geobotanists studied the local plants and drew the conclusion that, given a supply of water, 2,000,000 sheep could be grazed there.

When the war ended, Ust Urt found itself on a famous 2,500-mile route along which 48,000 sheep passed from Uzbekistan to Astrakhan by way of the Kizil Kum and all Kara-Kalpakia. They were sent by the Uzbek people to the Ukrainians and Byelorussians, whose economy had suffered in the years of the Patriotic War. Vets, stock-breeders, and a communication aeroplane accompanied the sheep. A plane was also used by crews that drilled wells along the route. Thus "Well Road" came into being in Ust Urt.

Afterwards the first camel-breeding farm was set up in the southern part of the plateau. In 1948-49, the first wintering of sheep was successfully carried out, after concreted watering-places had been provided. In the summer of 1952, a drought-resisting variety of wheat, evolved at the Milyutinskaya Experimental Station of *Bogara* Agriculture, gave a harvest on the first ten-acre field of virgin land, a gypsaceous salt marsh, near Churuk Well. Ak Tumsuk, a new hydro-meteorological station, has arisen on the edge of Ust Urt, near the western shore of the Aral Sea. Thus, step by step, Soviet people have begun to reclaim that expanse of land too, one of the barrenest in Kara-Kalpakia.

3. THE DELTA OF THE AMU

The moorings of Khojeili, the largest river landing-stage in Kara-Kalpakia, line the Amu not far from Nukus. A small town, set in a ring of orchards and cotton plantations, sprang up next to the landing-stage many years ago.

Many Khojeili residents—people employed at the landing-stage, the ship-repair shop, the cotton mill, or the quarries or brick-yards of the new construction area—are keen sportsmen, and on the eve of their day-off they take their guns and set out after game, on foot or sometimes in punts. They go to the nearest *tugais* or deep into the delta of the Amu.

Tugais, as Central Asian jungles are called, stretch in broad strips along the Amu, at times for as much as ten or fifteen miles. Dzungarian elm-trees and willows, oleasters with small orange flowers, tamarisks and dog-banes are thickly entwined with lianas, and it is not easy to make headway through them. Some lianas are 80 feet long. Here and there in a *tugai* you can see a thicket of reeds or *eleocharis*, a giant cereal with silvery tufts. On a trail beaten by wild-boars you may come upon a huge Amu cock-pheasant. Bright-feathered pheasants start up noisily. A hedgehog scurries through the thicket, chasing a snake. Sometimes one encounters a Turanian tiger, the "lord of the reeds."

The *tugais* reach into the delta of the Amu, one of the world's largest deltas, larger by half than the delta of the Nile. But the Amu delta is practically uninhabited, because even in that expanse of rusty reeds, criss-crossed by countless channels, the river is just as "crazy" as anywhere and apt as suddenly to change its course.

Near the westernmost point of the delta, in the shadow of the steep slope of Ust Urt, stands the village of Urga, where the Amu Darya State Preserve has its headquarters. The entrance to the headquarters bears this inscription: "Wherever nature is destroyed, life gives out."

Inside the preserve, it is prohibited to cut down or burn reeds or other plants, to shoot game, or to fish. The importance of protecting that wild nature, so powerful in its growth, will become evident if one visualizes the part played by man in changing the geographical distribution of our flora.

In their battle with Nature the tiller of virgin soil, the sheep-breeder, the irrigation specialist and the agronomist, all destroy dozens of varieties of plants that are considered useless. But there are many once useless plants which man has now found to yield rubber, excellent fibre, or valuable medicinal or chemical stuffs. It is our duty to preserve for our descendants, who may make remarkable discoveries in the future, the great wealth of plants which Nature has bestowed on our Soviet land. And that is the first and foremost task of the preserves, those virgin islands in the ocean of land which man's economic activities are changing. There are several preserves in Uzbekistan, the one on the Amu being the largest.

Buds are quite familiar with the Amu Darya Preserve, where they hardly fear man. Ornithologists make their way in punts through luxuriant growths of sedge and reeds, observing bird life and collecting material for long laboratory work in winter.

White herons walk away leisurely as a punt glides up, it is only when the pole splashes a few paces from them that they reluctantly spread their wings and take off. Eastern glossy ibis—black buds with long, crooked bills, closely related to the Egyptian sacred ibis—fly low over the water, and the hollow stems of the reeds hum as the birds flap their wings. A coot can be heard calling from some reed thicket. Fat cormorants sitting on promontories beat their wings as if fanning themselves, they cast contemptuous, sufered glances at the boat, and occasionally give a cry that sounds like a low neigh. On sighting a reed hen-harrier, a grebe covers its fledgelings with its wings and dives with them to get away from danger. A flock of ducks whisks off, with a flapping of wings that reminds you of a strong gust of wind. Clumsy pelicans soar in the air with outstretched powerful beaks that look like prows. Suddenly an eagle swoops down from high, and a dark cloud of honking geese, ducks, night herons, red and grey herons and spoon-bills rises on the horizon, screening the sun. Terrified frogs stop croaking and plop into the water. The wind smooths out the widening circles on the water where the frogs dived. As to the birds, they chatter and call for a long time, unable to calm down.

The preserve has come to be a sort of permanent replenisher of game-birds for all Central Asia. Besides, it is a major stopping-place along the route of migrant birds, which feed, rest, and fatten there.

The preserve fulfils another economic task of importance. Its calm streams and lakelets covered with duckweeds and overgrown with water-plants, its back-waters (undisturbed by fishermen's nets) where fish spawn, its feeding grounds and its deep wintering-pits make up a vast fish hatchery. Thanks to the preserve, the number of fish in the Aral Sea is increasing year after year. They feed mainly on the midgets of all kinds that swarm over the delta. A celebrity of the delta's fish population is the shovel-head sturgeon, a fish found only here and in the Mississippi.

Soviet people are protecting and, moreover, enriching wild life in the delta of the Amu. They brought by air and released into the water tens of thousands of fry of the Caspian herring, and the Aral Sea came to abound not only in the local herring but in the large Caspian variety. Soviet researchers released ondatra (muskrat) into the reed thickets beyond the bounds of the preserve. The animals multiplied rapidly and built everywhere their two-storey dwellings with underwater passages and conical roofs rising above water. Now they are hunted for their valuable fur.

In the delta Soviet people have written yet another page—a brilliant page—in the history of Central Asia. It deals with locusts, which in pre-revolutionary Turkestan were a national calamity. Within a few hours locusts would destroy the fruits of the labour of thousands of *dehkans*, devouring the crops to the last blade. The voracity of locusts is proverbial. And it was there, in the reeds of the Amu delta, that the bulk of the Asiatic locusts came into being and started on their destructive flight.

Soviet people decided to extirpate the locusts for good. You will realize the difficulty of the task, for these insects are amazingly prolific; twenty thousand young can come forth simultaneously on an area no larger than a table of average size. An anti-locust expedition began working in the delta. Its members rowed their way through the reeds, seeking places where locusts were concentrated. Then they gave instructions to flyers, who sprayed immense expanses of reeds with chemicals from the air. Within a few years locusts were exterminated in the delta. To make sure they would not reappear, the Soviet Government, by arrangement with the governments of Iran and Afghanistan, exterminated the locusts in those neighbouring states as well.

4. THE ARAL SEA

Aral means "island." Indeed, the Aral lies like an island in a yellow expanse of sands. It is the fourth largest lake in the world, coming after the Caspian Sea, Lake Superior in the United States, and Lake Victoria in Africa. Its area is 195 square miles, which is 110 times as much as that of Lake Lemman in Switzerland. But it is not very deep,

measuring from 30 to 60 feet at most. It is only near Voziozhdenye Island that it attains a depth of about 220 feet

In the first Russian book of geography, the Aral is called "Blue Sea" Its blue is amazing indeed. In the open sea the water is exceedingly pure, as deep and delicate as aquamarine but without its touch of green, as intense and bright as Badakhshan azurite, and as translucent as sapphire. One cannot have one's fill of admiring it.

In the southern part of the Aral Sea lies Tokmak Ata Island, centre of Uzbekistan's fishing industry. There are several fishing villages and three fish-processing factories on the island, which is situated opposite the delta and separated from it only by a narrow strait. Near a large new fish-cannery, the town of Muinak stretches along the coast. It is the birthplace of Berdakh, renowned Kara-Kalpak folk poet of the 19th century.

The town's appearance is suggestive of the proximity of Russia. It has a population made up of Kara-Kalpaks, Kazakhs, and Russians—"Uralians" whom the tsarist government exiled there in the second half of last century. Whitewashed Ural mud-huts with ridged rush roofs stand side by side with flat-topped Central Asian houses. *Yurts* are to be seen in some of the court-yards. Nets dry everywhere—behind hedges and in the streets—imparting a romantic colour to the town. Iridescent oil stains float near the tarred moorings, white foam seethes under the bows of launches, and barges loaded with salt or fish lie at anchor. In the gulf you can see the white triangles of sails drawn taut by the wind.

The southern Aral fishing fleet lies at anchor a couple of miles from Muinak, near Uch Sai wharf on the same island. Passenger boats and tugs arrive here from Aralsk, a town on the northern coast, and from the Amu in the south.

For a long time navigation between the Amu and the Aral was exceedingly difficult, because it is in its delta that the Amu deposits most of its silt. Ships would run aground in the delta and get stuck for weeks. Later Soviet water-transport workers devised a simple and ingenious method of connecting the navigable channel of the Amu with the sea. In that part of the delta where there is scarcely any current, they hacked a narrow passage through the reeds, at right angle to the flow of the

mass of water. Thus "Munak Path" came into being, which tugs and barges now ply, passing each other with difficulty

Fishing flotillas cruise sometimes in the very middle of the sea, where Vozrozhdenye Island lies, and sometimes along the coast. The Aral Sea abounds in haibel, which looks like a huge gudgeon, sea-roach, herring, sheat-fish, carp, bream, pike, zander, perch, and chub. But the most famed local fish is the Aral sturgeon. Aral fishermen had almost exterminated it, they were hauling less and less every year, and then catching it was prohibited. Within a few years the Aral sturgeon multiplied again and became once more a food fish of commercial importance, bringing fame to the Aral Sea.

In the past few years Aral fishermen have been taking occasional specimens of Caspian sevruga. Soviet fish-hatchers had flown live spawn of that valuable fish from the Caspian Sea to the delta of the Amu, kept it there for a while in special fish-hatching apparatuses, and when fry came out of the spawn, released them into the Amu. It was in this way that, following Caspian herring, sevruga made its appearance in the Aral Sea.

There is an island in the Aral Sea called Barsa Kelmes, that is, "You won't get back if you go." A preserve has been set up on the island for saiga (steppe antelope) and Persian gazelle. Almost exterminated by hunters in Central Asia, they now live here and propagate, protected by man.

Wisely, simply and with inspiration, Soviet people are enriching and transforming Nature. In every Soviet town, in every region there are men and women who devote their hearts and energies to this noble task. And every town, every region, has a beautiful future of its own in store, a future awaited with impatience: a near future expressed in the figures and outlines of the current development projects, and a distant future, existing so far in imagination only. The Soviet people's dreams of their future are active, concrete, realistic, and at the same time unbounded. In the Aral area, too, the people have their far-reaching dream. They are deeply enthusiastic about a scheme bearing on the future of their blue sea. Let us see what it is.

Many thousands of years ago, the rivers Ob and Irtysh did not flow north, to the Arctic Ocean, but south, to the Aral-Caspian Sea. Moun-

tain-forming processes gradually created an elevation in the central part of Siberia and reversed the course of the two rivers, which ever since have emptied uselessly into the Arctic Ocean. Central Asia, deprived of that water, became one of the most arid regions on the globe. Now Soviet people have conceived the bold idea of turning back the two Siberian rivers, of making them flow southwards to the Aral Sea.

If that were done, part of the water of the Irtysh and the Ob, and later of the Yenisei, would rush down an immense man-made channel deep enough for sea-going ships.

The Siberian rivers would irrigate the colossal desert expanses which will still remain in Kara-Kalpakia, Turkmenia, and Kazakhstan after the Central Asian rivers have been completely harnessed for irrigation. Central Asia would then have so much water that it could wipe the desert off the map for good, merging all the oases in one flourishing region. Researchers estimate that when this dream has materialized, the irrigated area in the Central Asian republics will equal the territory of all the West-European countries put together.

Then trains going from Chkalov to Tashkent via Kazakhstan will not have to cross scorched steppes, but a continuous expanse of orchards, vineyards, and farm fields.

Although the Siberian rivers will skirt the bulk of Uzbekistan's territory, they will water great tracts there, too. Then the sun will become a tireless helper of the Uzbek irrigation men. Masses of Ob and Irtysh water will evaporate and settle on the snow-capped peaks looming blue on the horizon. The climate of Central Asia will become humid, the number of mountain glaciers will grow, and all the Uzbek rivers will supply more water to the people.

Today this seems nothing but a dream. But then what about the progress made by the Uzbek people during the last three and a half decades, progress which the Communist Party charted as it roused the Uzbek people and the other peoples of the Soviet Union to the greatest deeds in history and to heroic, unprecedented constructive labour? Did that not seem as much of a far-off dream three and a half decades ago?

"We must learn to look into the distance," wrote Maxim Gorky in one of his letters. "Life has been given us for a long time, and is

meant not only for ourselves but for our descendants. It is making ever more rapid progress, and what was remote yesterday may roll up to our feet tomorrow." Many were the instances, since those words were written, when the distant did "roll up to our feet." Now we citizens of the Soviet Union stand on the threshold of a communist society, we gaze searchingly into the distance, trying to look deeper into that radiant future.

We are unable to make out all its wonderful details, but we know by past experience that its richness will surpass imagination. We can see its general outlines in the young forest-shelter belts raised in steppe areas, and in the inspired work—work on which the eyes of the whole Soviet Union are fixed—being done by the builders of the Stalingrad, Kuibyshev, and other great hydro-power projects. We can also see them in our confident advance to the level of productive forces which the U.S.S.R. requires in order to pass over from socialism to communism. We can see them in the master-plans for the reconstruction of our towns and villages, and, lastly, in the communist way of thinking that Soviet men and women have acquired, in their communist attitude towards labour.

One of the features of the communist way of thinking is love of one's work. Without that love, there is no future, no dazzling hopes, no fruitful dreams, no struggle to change dreams into reality, in short, nothing that makes for human happiness. Love of one's work is becoming universal in our country, manifesting itself, for one thing, in the tremendous scope of the movement of innovators in industry and agriculture. We live in a great era when no one's work is insignificant. Soviet men and women of every occupation are bringing closer to all of us the splendid communist morrow.

This love of one's work is illustrated by a scene I witnessed not so long ago. It is a minor incident, but it brings out something of great importance, much in the same way as a split-second flash of lightning brings out a great expanse of sky.

It happened in Tashkent, in the spring-time, when the vast orchard of the Fruit and Berry Institute of the Uzbekistan Academy of Sciences was in full blossom. A group of school children on an outing were standing near a small apricot-tree studded with lilac-pink flowers. A

horticulturist, employed in the orchard, was telling them about the tree. He was a middle-aged man, belonging to that generation of the Uzbek people that had had a hard youth and for whom the Revolution had paved the way to a life of free, constructive endeavour. In other words, he was one of those who say as they look back upon the years, "I've lived a happier life than man is perhaps entitled to." He was talking with boys and girls in Young Pioneer neckerchiefs, members of a generation firmly convinced that man is entitled to immense happiness on earth.

While the horticulturist was speaking enthusiastically about a late-ripening variety of apricot evolved by his colleagues, one of the Young Pioneers, a boy with plump ruddy cheeks and thick Uzbek eyebrows, gave a short laugh and whispered something in his friend's ear.

"You must think I'm a queer chap," said the fruit-grower to the two boys. "A man who's sure the fate of the world hinges on his apricots!"

"Not me," muttered the second boy in embarrassment.

"Well, if you don't, he does," the fruit-grower chuckled, nodding at the boy with the thick eyebrows. "Don't you, now?"

"Yes," answered the boy simply.

"Oh! Then perhaps you know what I'm going to say next?"

"I do."

"Let's hear it."

The boy winked at his friends.

"My uncle's an architect," he said, "and he says that under communism everybody will live in a beautiful house. One of my uncle's friends is a violinist, and *he* says that under communism everybody will be a musician."

"That's just what I was going to say," laughed the horticulturist. "You guessed right, my boy. Children, under communism the whole Soviet land will be one blossoming garden."

